Министерство образования и науки Российской Федерации

Федеральное государственное бюджетное образовательное учреждение
высшего профессионального образования
«Комсомольский-на-Амуре государственный технический университет»

С. В. Латина

АНГЛИЙСКИЙ ЯЗЫК В СФЕРЕ СТРОИТЕЛЬСТВА

Рекомендовано Учебно-методическим объединением вузов РФ
по образованию в области строительства в качестве учебного пособия
для студентов высших учебных заведений, обучающихся по программе
бакалавриата по направлению подготовки 270800 − «Строительство»

Комсомольск-на-Амуре
2014

ББК 81.2Англ-9
УДК 811.111 (07)
Л272

Рецензенты:
Кафедра второго иностранного языка и китаеведения
факультета филологии и межкультурной коммуникации
ФГБОУ ВПО «Амурский гуманитарно-педагогический
государственный университет»,
зав. кафедрой доцент, кандидат исторических наук Н. Н. Французова;
О. В. Дудченко, кандидат филологических наук, доцент кафедры
иностранных языков Института психологии и педагогики
ФГБОУ ВПО «Амурский гуманитарно-педагогический государственный
университет»

Латина, С. В.
Л272 Английский язык в сфере строительства : учеб. пособие / С. В. Латина. – Комсомольск-на-Амуре : ФГБОУ ВПО «КнАГТУ», 2014. – 135 с.
ISBN 978-5-7765-1083-0

Учебное пособие предназначено для студентов технических вузов, обучающихся по направлениям 270800.62 − «Строительство», 270300.62 − «Дизайн архитектурной среды» и другим направлениям, соответствующим ФГОС ВПО. Пособие также может быть рекомендовано магистрантам, научным работникам и специалистам широкого круга специальностей, желающим повысить уровень владения профессиональным английским языком.

Основной целью работы с пособием является обучение чтению и пониманию профессионально-ориентированных текстов, а также развитие умений и навыков разговорной речи. Учебное пособие предполагает речевую активность студентов в ходе занятий, при его составлении учтена будущая специальность и профессиональные интересы учащихся.

Пособие рассчитано на 162 ч аудиторных занятий для бакалавров.

ББК 81.2Англ-9
УДК 811.111 (07)

ISBN 978-5-7765-1083-0

ОГЛАВЛЕНИЕ

ВВЕДЕНИЕ

Данное учебное пособие предназначено для студентов технических вузов, обучающихся по направлениям 270800.62 − «Строительство», 270300.62 − «Дизайн архитектурной среды» и другим направлениям, соответствующим ФГОС ВПО. Оно также может быть рекомендовано магистрантам, научным работникам и специалистам широкого круга специальностей, желающим повысить уровень владения профессиональным английским языком.

Пособие построено на базе стандарта курса иностранного языка для неязыковых вузов и рассчитано на профессионально-ориентированный этап обучения.

Основная цель работы с учебным пособием – развитие и совершенствование умений читать и переводить оригинальную литературу на английском языке по специальности, а также развитие навыков разговорной речи в пределах пройденной тематики.

Учебное пособие включает в себя восемь тем. Каждая тема (Unit) посвящена конкретной инженерно-строительной тематике и содержит лексический раздел (Speech Pattern) и раздел с проверочными заданиями (Tests). Кроме этого, темы 1 – 6 включают в себя грамматический раздел (Grammar).

Раздел Speech Pattern содержит подразделы Active Vocabulary, Reading и Drilling. Подраздел Active Vocabulary знакомит студентов с профессиональной лексикой, которая определяется содержанием текстов в пределах изучаемой темы и отражает термины, представленные в литературе по строительству. Лексика закрепляется в разнообразных упражнениях с учётом принципа «от простого к сложному». Подраздел «The Text…» включает в себя аутентичный текст, а подраздел Drilling – систему упражнений, ориентированных на овладение студентами основными видами чтения и обучение говорению.

Раздел Grammar в основном направлен на изучение правил, наиболее часто встречаемых и употребляемых в научной речи. Представленные упражнения нацелены на развитие навыков чтения специальной литературы на английском языке.

В приложении 1 приведён грамматический справочнике Section Grammar, в котором дан теоретический материал, позволяющий студентам самостоятельно изучать практический раздел Grammar.

Приложения 2 − 6 содержат тексты для дополнительного чтения, список выражений, рекомендуемых для написания аннотаций и рефератов на английском языке, ключи к упражнениям и тезаурус для работы с текстами.

Материалы данного учебного пособия прошли апробацию на занятиях со студентами различных групп факультета кадастра и строительства Комсомольского-на-Амуре государственного технического университета.

UNIT 1. THE FIRST STRUCTURES HISTORY

Лексика: тексты **«Building construction in the prehistoric times», «Flatiron Building – Skyscraper»** и упражнения.
Грамматика: действительный и страдательный залоги.
Лексико-грамматический тест.

1.1. Speech Pattern

1.1.1. Active Vocabulary

Ex. 1. *Read and learn the words from the active vocabulary:*

bark – кора
to bury ['berɪ] – закапывать, засыпать
bundle ['bʌndl] – вязанка, пучок, связка
dry-laid stone – сухая каменная кладка
to daub [dɔ:b] – обмазывать
dome – купол, свод
domed – куполообразный, купольный
dwelling – жилище, жильё, место жительства
granary ['græn(ə)rɪ] – амбар, сарай, зернохранилище
hide – кожа, шкура
hut [hʌt] – лачуга, хижина, шалаш
lateral stability ['læt(ə)r(ə)l stə'bɪlətɪ] – поперечная устойчивость
to intertwine [ˌɪntə'twaɪn] – переплетать, сплетать, закручивать
to lay out – раскладывать
packed – плотный
pole – столб, шест, кол
the post and lintel method – каркасный метод, стоечно-балочный метод
reed – камыш, тростник, солома
responsive [rɪ'spɔnsɪv] – реагирующий, восприимчивый, отзывчивый
to restrict – ограничивать, сужать
rafter – стропило
ridge – конёк, выступ
sapling – побег, отводок
shelter – кров, защита, прикрытие, приют
to span – перекрывать (о крыше, арке), наводить (о мосте)
thatch [θæʧ] – солома, тростник (как материал для кровли)
wattle ['wɔtl] – плетень, лозняк
wattle and daub – мазанка (тонкие ветки дерева или хвороста, обмазанные глиной)

Ex. 2. *Translate from English into Russian the following word-combinations:*

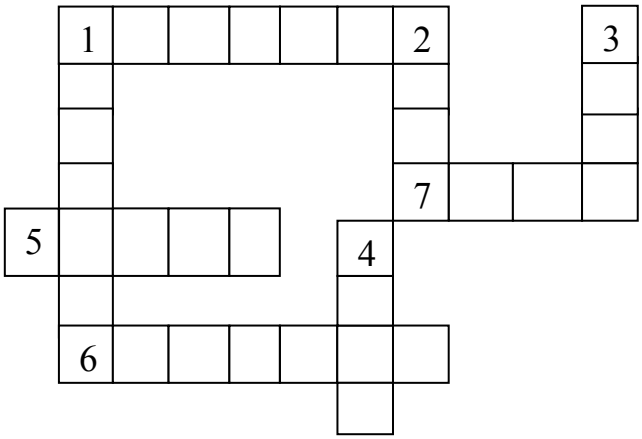
to find / take a shelter;
a bamboo hut;
to have smb.'s hide;
to intertwine all these aspects;
a private dwelling;
a packed sand;
a dry-laid stone wall;
domed mountains;
made of small saplings;
a crude thatch;

a bundle of nerves;
to span a river with a bridge;
a concrete pole, the ridge pole;
to restrict certain information;
to rafter;
to bury the columns into the ground;
to lay out the reed on the top;
to daub;
a tree bark;
to be responsive to smth.

Ex. 3. *Match the columns:*

1. dwelling	a) a place giving temporary protection from bad weather
2. responsive	b) to connect or link (two or more things) closely
3. shelter	c) to put a limit on
4. dome	d) the skin of an animal
5. to intertwine	e) reacting quickly
6. reed	f) a small building of simple construction, shelter
7. to restrict	g) a house
8. pole	h) a rounded vault forming the roof of a building
9. hide	i) a tall plant of the grass family that grows in water
10. hut	j) a long, slender, rounded piece of wood or metal, typically used with one end placed in the ground as a support for something

Ex. 4. *Guess the cross-word:*



По вертикали:

1. Молодое деревце, побег.
2. Высокое прибрежно-водное растение.
3. Длинный тонкий прут (деревянный или металлический), который закапывают одним концом в землю и используют с целью поддержки.
4. Зарывать, закапывать.

По горизонтали:

1. Место, временно защищающее от плохой погоды или опасности.
5. Конёк.
6. Место для хранения зерна.
7. Свод.

Ex. 5. *Make up your own sentences with the following word-combinations:*

to put up a pole;
a thatched hut;
to be restricted by smth.;
responsive people;
a modern dwelling;
to seek a shelter from smth.;
hard-packed snow;
to bury treasure.

Ex. 6. *Make the following sentences complete by translating the words and phrases in brackets into English:*

1. The first buildings were simple (**шалаши, палатки, кровы**) meant to suit the basic needs of protection from the elements, built by their inhabitants.
2. Cultures from pre-history to modern times constructed (**куполообразное жилье**) using local materials: leaves, shingles, wood, stones, reed, thatch and bricks later.
3. Wigwams are formed with a frame of (**выгнутые шесты**), most often wooden, which are covered with some sort of roofing material.
4. To build a wigwam, long fresh poles of oak or willow are driven into the ground or (**закапывать**) in holes made with a digging stick.
5. These poles, which form the framework, are arranged at (**интервал в один фут**) and are bound together at the top with yucca-leaf strands.
6. The ancient builders (**закапывать**) the bones of deer and oxen at the bottom of the ditch and had looked after them for some time.
7. (**Мазанка**) is a form of wall construction consisting of interwoven twigs plastered with a mixture of clay, lime, water, and sometimes dung and chopped straw.
8. Rafter is a type of beam, which (**поддерживать**) the roof of a building. In home construction rafters are typically made of (**дерева**); they are a feature of traditional roof styles.
9. Katsuogi are short, decorative logs found on Japanese architecture, which are placed at a right angle along the (**конёк крыши**), and are usually featured in religious or imperial (**архитектура**).
10. It's a good idea to (**вырезать несколько лишних стропил**); I've found that a couple of mine have bowed when I didn't put them exactly straight into the roof ring, and it's nice to be able to replace them easily.

Ex. 7. *Study the patterns showing the ways some nouns are formed from verbs. Complete the charts, translate formed words:*

Pattern 1

Verb + **-ment** ⟶ Noun

Example: achieve – достигать ⟶ achieve**ment** – достижение

Verb	Noun	Verb	Noun
to arrange		to reinforce	
to measure		to improve	
to base		to require	
to move		to treat	
to develop		to manage	

Pattern 2

Verb + **-ion/- ation/-ition/-tion/-sion** ⟶ Noun

Example: educate – обучать ⟶ educat**ion** – обучение

Verb	Noun	Verb	Noun
to construct		to decorate	
to reflect		to form	
to found		to distribute	
to erect		to install	
to transform		to ventilate	

1.1.2. The text «Building construction in the prehistoric times»

Ex. 1. *Before you read the text discuss the following questions with your groupmates:*

1. Where did ancient people live?
2. What materials did ancient people use to build their dwellings?
3. Why did ancient people erect their dwellings?

Ex. 2. *Read and translate the text «Building Construction in the Prehistoric Times»:*

BUILDING CONSTRUCTION IN THE PREHISTORIC TIMES

Construction has always been a reflection of the technological and ethical values of a specific society and its values at any given moment of time. The first "shelters" built by humankind date back to before 12,000 BC. From the very beginning man was a hunter-gatherer so building types characteristic of this period are: tents, huts and stone structures.

Then man begins to cultivate land and building types characteristic of this period are: villages of circular huts and the communal houses.

Construction was based on simple techniques using readily available materials.

The Tent

Hunting generated animal hides and bones. These were used to create tents. Wooden poles and /or animal bones were utilized to erect a framework over which packed clay, animal hides or leaves were draped. In its crude form, the tent was erected by driving a pole in the ground, and slinging animal hides over it. Stones took the place of the hides then.

The Hut

The huts in its simplest form were made from wooden branches, which were stuck into the ground in a circle, and their upper, softer ends were tied to-

gether at the top. Over this framework, either hide was used as a cover, or broad leaves were intertwined to form a covering. With the advent of the agricultural revolution, more permanent forms developed. In the Middle East, remains of whole villages of round dwellings have been unearthed. These round dwellings, called tholoi[1], were built of packed clay. Although all traces of the roofs have disappeared, there were most likely built of dry-laid stone forming domed roofs.

Composite building materials were also used. Clay and wood were often used for permanent dwellings. The walls were made of small saplings or reeds driven into the ground, and tied laterally with vegetable fibers. This was then plastered over with wet clay for rigidity and waterproofing. The roofs must have been made of crude thatch bundles or bundled reeds.

Stone Structures

Some of the first stone structures built by man were the structures in which two stones were placed vertically and one flat stone was spanned them across. These were called dolmens[2].

Other stone buildings include granaries and temples. But some, like the Stonehenge, are still a puzzle to us today. The construction of such buildings was based on the post and lintel method, similar to the dolmens.

Many of these structures are still being used by tribal populations all over the world. They are the igloo[3], tepee[4], Mongolian yurt, the Zulu kraal[5] etc.

The Communal House

Heavier timber buildings were also found. These buildings were restricted in size as the stone tools used by man at that time were not very effective in cutting large trees for timber. Using the post and lintel system, a central row of columns was used to support the ridge pole and similar rows of columns were used for the long walls. Rafters were run from the ridge pole to the wall beams. The columns were buried deep into the ground for lateral stability. The ridge pole and rafters were tied using vegetable fibers. Thatch was used to roof the structure. Light wooden poles were spanned between the rafters to lay out the thatch on top. The walls were infilled with various materials, including clay, wattle and daub, tree bark, and thatch.

All these buildings protected man from severe weather conditions, like rain, snow, winds, excessive heat etc. Also these structures were very thermally responsive as they could heat and cool very fast.

---

[1] Tholoi − могила, большая круглая погребальная камера с высоким сводом и прямолинейным входом, выложенным камнем

[2] Dolmen − дольмен (огромного размера каменные глыбы, поставленные на ребро и перекрытые сверху каменной плитой)

[3] Igloo − иглу (куполообразное жилище канадских эскимосов, сложенное из снежных блоков)

[4] Tepee − вигвам индейцев

[5] Kraal − крааль (деревня в Южной или Центральной Африке, в которой дома окружены общим забором или стеной, а в центре предусмотрено место для скота)

1.1.3. Drilling

Ex. 1. *Finish the sentences, using the information from the text:*

1. Humankind built the first "shelters" before ….
2. When man began to cultivate land he started to live in ….
3. Man used animal hides and bones to ….
4. Hides or broad leaves were utilized to form ….
5. The first roofs were most likely built of ….
6. Prehistoric people often used such composite building materials as ….
7. At present some tribal population still live in ….
8. Man erected all structures to protect himself from ….

Ex. 2. *Choose the right answers according to the information from the text:*

1. What was man from the very beginning?
a) He was a builder.
b) He was a hunter-gatherer.
c) He was a sailor.
2. What materials did humankind use in the prehistoric times?
a) He used only wood.
b) He used concrete and steel.
c) He used readily available materials.
3. What materials did people start to use instead of hides?
a) People started to use stones.
b) People started to use bricks.
c) People started to use plywood.
4. Why were timber buildings restricted in size?
a) They were restricted in size as there were no tools at all.
b) They were restricted in size as man didn't know how to erect high buildings.
c) They were restricted in size as the stone tools were not very effective in cutting large trees for timber.

Ex. 3. *Match the beginning and the end of the sentences, translate the resulted sentences into Russian:*

1. The round dwellings called tholoi,	a) the place of the hides then.
2. All these buildings protected	b) for permanent dwellings.
3. Animal hides and bones	c) to roof the structure.
4. Thatch was used	d) were built of packed clay.
5. Stones took	e) man from severe weather conditions.
6. Clay and wood were often used	f) were used to create tents.

Ex. 4. *Answer the questions to the text:*

1. What is construction?
2. What were the first types of buildings people lived in?
3. How did humankind get bones and hides?
4. How did prehistoric man use bones and hides?
5. How were tents erected?
6. What is a hut and how did man make it?
7. What material did people use for rigidity and waterproofing of their shelters?
8. What form did the first roof have?
9. What did man utilize to roof the structure (the tent, the hut, the stone structures, the communal house)?
10. What were the walls of the communal house infilled with?
11. Why did people begin to build houses?

Ex. 5. *Speak about construction of different structures using the key words:*

1. Construction of the tents: to hunt, hides and bones, wooden poles, to use, to erect a framework, to drive a pole, to throw on animal hides.
2. Construction of the huts: branches, to stick, in a circle, to tie the upper ends, framework, to form a covering, the Middle East, round dwellings, packed clay, domed roofs.
3. Construction of the stone structures: stones, to be placed vertically, to be spanned across, dolmens, granaries and temples, Stonehenge, to be a puzzle, to be based on the post and lintel method.
4. Construction of the communal houses: heavier timber buildings, to be restricted in size, tools, to be not effective, a row of columns, to support, the ridge pole, rafters, to be run, the wall beams, to tie, vegetable fibers, thatch, to roof, to be infilled with.

Ex. 6. *Retell the text* ***«Building Construction in the Prehistoric Times»*** *using the active vocabulary and information from ex. 5.*

Ex. 7. *Read the text* ***«Flatiron Building – Skyscraper»****. Tell the main idea of the text in few sentences.*

FLATIRON BUILDING – SKYSCRAPER

The “invention” of the skyscraper lies with George A. Fuller (1851 − 1900). George Fuller worked on solving the problems of the “load bearing capacities” of tall buildings. George Fuller built the Tacoma Building in 1889, the first structure ever built where the outside walls did not carrying the weight of the building. Using Bessemer steel beams, Fuller created steel cages that sup-

ported all the weight in tall buildings or skyscrapers. The Flatiron Building was one of New York City's first skyscrapers, built in 1902 by Fuller's building company. Daniel H. Burnham was the chief architect. It became known as the Flatiron Building because it was wedge-shaped like a clothing iron. Burnham gave the building this unusual shape to maximize use of the triangular lot. The Flatiron Building is only six feet wide at its tip. Offices at the narrow point offer spectacular views of the Empire State Building.

When it was constructed, some people worried that the Flatiron Building would collapse. They called it Burnham's Folly. But the Flatiron Building was actually a feat of engineering that used newly developed construction methods. A sturdy steel skeleton allowed the Flatiron Building to achieve record-breaking height without the need for wide supporting walls at the foundation.

Ex. 8. *Read more information about history of constructions and discuss it with your groupmates. See the Texts for Supplementary Reading (Texts 3, 4). Speak about the differences between construction nowadays and in ancient times as well.*

Ex. 9. *Make the presentation about construction in the prehistoric times.*

1.2. Grammar: Actives and Passives (See Section Grammar)

Ex. 1. *Read and translate the following sentences paying attention to the tense and voice:*

1. Concrete **was used** in the construction of the Arch of Septimius Severus in Rome.
2. Concrete **gained** its strength by actually incorporating water into the molecules of artificial limestone.
3. The formula for making concrete **has been known** since the time of ancient Egypt and Mesopotamia.
4. Limestone **was roasted** until all of the water locked within its molecules was driven off and it became powdered lime.
5. The Assyrians and Babylonians **used** clay as the bonding substance or cement.
6. Aggregates **include** sand, crushed stone, gravel, slag, ashes, burned shale, and burned clay.

7. Reinforced concrete **combines** the tensile strength of metal and the compressional strength of concrete to withstand heavy loads.

8. Several esteemed architects **have** literally **shaped** the form of our country in the buildings that many work in or continue to be visited today.

9. This major American landscape architect **was educated** at Yale University and traveled throughout the United States and Europe to study.

10. Edison's invention of the light bulb **ranks** with the advent of the telephone as one of the most important technological advances of the nineteenth century.

Ex. 2. *Choose the most suitable verb form and translate the sentences:*

1. One thousand year old steel production site **has been unearthed / has unearthed** by an International research team in the remains of the ancient city of Gyaur Kala in Turkmenistan.

2. The ancient steel makers **showed / is showed** considerable knowledge of the steel production process.

3. Huts **are used / is using** as temporary shelters by people.

4. The Antarctic climate with frequent snowstorms **has showed / has been showed** its negative influence on Antarctic explorers' dwelling.

5. One very early type of housing used by hunter gatherers in central Europe during the Late Pleistocene **was / were** mammoth bone dwellings.

6. Mammoth bone huts, structures built primarily from the bones and tusks from mammoths, **are known / knows** from sites throughout Eastern Europe (Russia, Ukraine, Poland) between about 27,000 and 12,000 years ago.

7. Many of them **contain / had been contained** exotic tools or decorated mammoth skulls and scapulae.

8. The first people **started / was started** building their own dwellings using basic materials such as wood, clay, palm leaves, straw, bamboo and cane, rocks, stones, mud bricks and granite.

9. Most of the houses of the United Kingdom **have / have been** their roof in the form of an inverted V.

10. Fine aggregate (fine refers to the size of aggregate) **is used / is using** in making concrete slabs and smooth surfaces.

Ex. 3. *Rewrite each sentence, putting the verb in bold in the Passive Voice:*

1. Men **tied** together tops of several trees and **covered** them with the skins of animals.

2. People **made** the first houses from wood, leaves and grass.

3. Limestone slabs **covered** the floor of earthen houses.

4. The ancient Egyptians **built** very simple houses by present standards.

5. Le Corbusier **has played** an important part in the history of building.

6. Skyscrapers and great diversity of styles **characterize** architecture of the XX century.
7. Slaves **transported** large blocks of stone over long distances.
8. Men **looked for** protection under the brunches of trees.
9. The Romans **sent** a lot of goods-skins, copper and iron ore, silver and gold to Rome.
10. Bit by bit Londoners **were reconstructing** London until it has become the most attractive places of the world.

Ex. 4. *Look carefully at each line. Some of the lines are correct, and some have a word which should not be there. Tick each correct line. If a line has a word which should not be there, write the word in the space:*

OPENING OF NEW GULLIVER SPORTS CENTER

The Gulliver Sports Center, which has been		V
completely rebuilt, was been reopened yesterday been		been
by the Minister of Sport. The building it was	1	….
originally used to as a market, but was sold	2	….
to Fairdene Council in 1981, and it then converted	3	….
into a sports hall. Local schools were played football	4	….
and basketball indoors, and keep-fit classes were held	5	….
there. In 1990 the hall was damage when by a fire	6	….
which was broke out in the heating system. The hall	7	….
could not be used, and remained empty while discussions	8	….
continued about its future. It was then and decided that	9	….
the hall would to be rebuilt, and an appeal for money	10	….
was launched. Two years ago a local businessman offered	11	….
to pay for the building work, and plans were drawn up.	12	….
The new hall is includes a swimming pool, running track	13	….
and other sports facilities which can be used by anyone	14	….
in the Fairdene area. The Minister was made a speech	15	….
in which she congratulated everyone involved.		….

1.3. Tests

Ex. 1. *Put the verb in a suitable form. Pay attention to the Tense and the Voice:*

1. Types of buildings (**to classify**) according to the role in the community.
2. They (**to plan**) to construct a new supermarket near our house.
3. The site for the new factory (**to decide**) yet.
4. Steel (**to vary**) considerably in its microstructure.
5. Some floor materials (**to maintain**) very easily.

6. First they (**to laid**) the foundation, and then they (**to build**) the walls.
7. The house (**to renovate**) by the current owners to provide modern living.
8. Great technological advances (**to make**) in plumbing.
9. Builders often (**to finish**) surfaces in plastic materials.
10. I (**to do**) a civil engineering course at the university, which (**to be**) very hard, but I am really enjoying it.

Ex.2. *Choose the right word:*

1. Your home is your sacred … place.

a) dwelling b) bark c) bundle

2. Twice destroyed and twice rebuilt, the Pantheon in Rome evolved into a … building so famous that it inspired architects for 2000 thousand years.

a) circular b) triangular c) domed

3. Most … used in England for roofing is made of long wheat straw grown especially for the purpose.

a) shelter b) thatch c) sapling

UNIT 2. FOUNDATIONS

Лексика: тексты **«Types of Foundations», «Spread Footings», «Tower of Pisa»** и упражнения.
Грамматика: согласование времен.
Лексико-грамматический тест.

2.1. Speech Pattern

2.1.1. Active Vocabulary

Ex. 1. *Read and learn the words from the active vocabulary:*

beam [biːm] – балка
to be poured [pɔːd] – быть застывшим
foundation – фундамент, основание
foundation pit – котлован
foundation wall – фундаментная стена
frost line – максимальная глубина промерзания
hollow ['hɔləu] – пустотелый
in tension – при напряжении
load – груз, нагрузка
to lean – наклоняться, склонять
mat foundation – фундамент в виде сплошной подушки, плиты
poured concrete – наливной бетон
pile – свая, столб
to pressure-treat ['preʃə- triːt] – подвергать обработке давлением

prone – предрасположенный к чему-либо
raft foundation – ростверк, сплошной фундамент
reinforcement steel [ˌriːɪn'fɔːsmənt stiːl] – железная арматура
residential [ˌrezɪ'den(t)ʃ(ə)l] – жилой
spread footing – фундамент на естественном основании, ленточный фундамент
steep slop – крутой откос
to settle – осаждаться
to transfer – переносить, перемещать
top soil – верхний растительный слой, дёрн
unstable [ʌn'steɪbl] – нетвёрдый, нестабильный
water table – уровень грунтовых вод
width [wɪtθ], [wɪdθ] – ширина, толщина, расстояние

Ex. 2. *Translate the sentences using the Active Vocabulary; put the question to the each sentence:*

1. Some of us may have even seen cracks appearing on the **foundation** of the home.
2. The thickness of the **foundation wall** is determined by vertical load, lateral load and the material used.
3. **Piles** are wood, concrete or sometimes metal columns that are driven into the ground, used to support the structure and prevent it from sinking into the ground.
4. **A residential** area is a land use in which housing predominates, as opposed to industrial and commercial areas.
5. **Spread foundations** are common in residential construction that includes a basement, and in many commercial structures.
6. In contemporary construction, **beams** are typically made of steel, reinforced concrete or wood.
7. **The loads** carried by a beam are **transferred** to columns, walls and other structural elements.
8. A **beam** is a horizontal structural element that is capable of withstanding load primarily by resisting bending.
9. **Reinforcement steel** was known in construction well before the era of the modern reinforced concrete.
10. The cross section shows **the water table** varying with surface topography.
11. Franklin W. Smith (1826–1911) was an architectural enthusiast and pioneer experimenter in **poured concrete** construction.
12. Doors should be evaluated on both sides to detect holes or dents, particularly in paneled and **hollow**-core doors.
13. **Top soil** has the highest concentration of organic matter and microorganisms.

14. It's very difficult to establish new plantings on **steep** slopes successfully.

15. **The frost line** depends on the climatic conditions of an area, the heat transfer properties of the soil and adjacent materials.

16. A ball on the top of a hill is an **unstable** situation.

Ex. 3. *Correlate two columns:*

1. the house settled	a) железная арматура
2. the width of the footing	b) балка, собираемая из пустотелых коробчатых секций
3. transfer the load	c) пустотелые бетонные секции
4. beam made of precast hollow blocks	d) несущие конструкции крыши
5. hollow concrete blocks	e) растягивающее напряжение
6. the tensile stresses	f) ширина основания
7. roof framing	g) дом оседал
8. residential construction	h) каркас дома
9. a skeleton of a house	i) перемещать нагрузку
10. reinforcement steel	j) жилое строительство

Ex. 4. *Make up the words from the given letters. Consult the active vocabulary:*

1. a, d, l, o;
2. i, l, p, e;
3. i, d, w, h, t;
4. h, l, o, o, l, w;
5. d, f, t, i, o, u, n, a, o, n;
6. e, e, r, a, l, n, t, s, i, d, i;
7. e, t, s, t, l, e.

Ex. 5. *Replace the underlined words with the words below. Some words can be used twice:*

a) transfer; b) unstable; c) foundation; d) water table; e) tension; f) residential building; g) settle; h) width; i) poured; j) load.

1. There was a time when the use of steel studs in <u>dwelling</u> applications was considered very exotic.
2. Raised fields are large artificial platforms of soil created to protect crops from flooding. They are generally found in areas of permanent high <u>groundwater level</u> or seasonal flooding.
3. If you don't compact it, the sand will <u>sink</u> over time, which will cause the pavers to <u>sink</u> too, leaving you with dips and valleys in your project area.
4. A final foundational difference between walkways and pathways is their <u>breadth</u>. Walkways, 4- to 6-feet wide, are typically much wider than pathways, 2- to 3-feet wide, to allow for side-by-side walking.

5. The basement is usually built in brick work, masonry or concrete under the base of a wall or column.

6. This will enable to transmit the load to the soil in a uniform manner; the foundation will depend on the recommendation by the structural engineer who will select the location, width and depth of every foundation in the structure.

7. Nickel steel is able to withstand high levels of stress and is, thus, often used in the construction of bridges and for making bicycle chains.

8. If your electrical transformer is to be installed inside or on top of a building, careful provisions and structural analysis of such burden must be analyzed and considered into the structural design.

9. Usually bored pile is used for those tall buildings or massive industrial complexes, which require foundations that can bear the weight of thousands of tons, most probably in unsteady or difficult soil conditions.

10. When concrete is being managed under cold weather, concrete must be protected from freezing shortly after being filled.

Ex. 6. *Study the patterns showing the ways some nouns are formed from verbs and adjectives. Complete the charts, translate formed words:*

Pattern 3

Verb + **-or/- er** ⟶ Noun

Example: govern – править ⟶ govern**or** – правитель

Verb	Noun	Verb	Noun
to construct		to decorate	
to build		to survey	
to found		to distribute	
to design		to supervise	
to plumb		to glaze	

Pattern 4

Verb / Adjective + **-ance / - ence** ⟶ Noun

Example: accept – принимать ⟶ accept**ance** – принятие
important – важный ⟶ import**ance** – важность

Verb / Adjective	Noun	Verb / Adjective	Noun
to depend		to exist	
different		to perform	
absent		to resist	
to appear		to refer	
frequent		convenient	

2.1.2. The text «Types of Foundations»

Ex. 1. *Before you read the text discuss the following questions with your groupmates:*

1. Have you ever seen the process of housing construction?
2. What does this process start from?
3. What is a foundation?
4. What is it used for?

Ex. 2. *Read and translate the text «Types of Foundations»:*

TYPES OF FOUNDATIONS

The structure of a home is the most fundamental element of the home, a skeleton of the house. Though building methods varied at times and from region to region, some basic elements are present in all homes. These include the foundation on which the structure stands, the walls, floors, ceilings, roof framing and support members.

Foundations are considered as the feet of any house. There are basically four types of foundations used most commonly in residential construction: pile foundations, continuous or spread footings, foundation walls and mat foundations.

Pile Foundations: A pile is a column that transfers the load of the building to the soil. A beam is placed under each load-bearing wall and the ends of the beam are then supported on piles. Piles can be made from steel, pressure-treated wood or concrete. Such foundations are useful for either very "heavy" buildings, or in regions where the top soil is unstable, prone to erosion etc. The pile is dug into the earth until a stable soil layer or rock formation is reached. Another application is in places where spread footings are impossible to construct due to topography (like very steep sloping sites). In such situations, piles are the only solution.

Continuous or Spread Footings: As the name suggests, these foundations are constructed along the entire length of the wall. The width of the footing is more than that of the wall. Hence, the load of the structure is "spread" over a large area. Spread footings are made of concrete. They are placed below the frost line. Reinforcement steel is used to give strength to concrete in tension. A variation to the spread footing is the step footing. This is made by creating a stepped pyramid of brick layers over a large concrete pad. Step footings are common in many parts of the world.

Foundation Walls: Generally seen in accessible basements, foundation walls transfer the load of the building to the foundation. Such walls are usually made of poured concrete, but more commonly, of hollow concrete blocks. Sometimes brick and stone are also used. The concrete walls are reinforced with

steel against the tensile stresses generated due to the top loading (of the structure above). When steel is used in hollow concrete blocks, concrete must be poured to hold the steel in place.

Mat Foundations: In certain situations, especially where the natural water table is high, a mat or raft foundation is used. This is basically a concrete slab of the same size as the building. It is reinforced and distributes the load of the building over the entire area. This is also useful when the soil is uneven and will settle under focused loads.

2.1.3. Drilling

Ex. 1. *Express the main idea of the text* ***«Types of Foundations»*** *in Russian in few sentences.*

Ex. 2. *Give English equivalents to the following words and phrases:*

самый существенный элемент дома;	единственное решение;
силовые конструкции;	вся длина стены;
фундаментные стены;	ступенчатое основание;
несущая стена;	большая бетонная подушка;
бетон или дерево;	быть усиленным сталью;
подверженные обработке давлением;	растягивающее напряжение;
имеющий предрасположенность к размыванию;	бетонная плита;
	распределять нагрузку здания.

Ex. 3. *Find the passage about spread foundation and prepare a good reading of it.*

Ex. 4. *Answer the questions to the text:*

1. What are the basic elements in all homes?
2. What is a foundation?
3. What types of foundation do you know?
4. What is a pile?
5. What materials can piles be made of?
6. When are pile foundations used?
7. How are spread footings constructed?
8. What material is used for spread footings?
9. What material gives strength to concrete using in spread footings?
10. What is the main task of foundation walls?
11. What materials are foundation walls made of?
12. What situation is mat foundation used in?
13. What is a mat foundation?

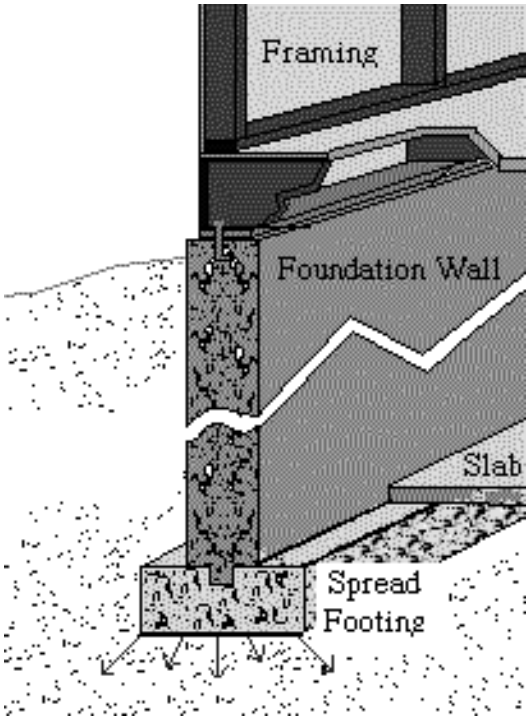
Ex. 5. *Divide the text* ***«Types of Foundations»*** *into logical parts, find the key sentences in the each part and write them down in your exercise-books.*

Ex.6. *Find the key words in the text* ***«Types of Foundations»*** *and write them down in your exercise-books.*

Ex. 7. *Use Ex. 5 as a plan to the text* ***«Types of Foundations»*** *and retell the text in English according to this plan.*

Ex. 8. *Read more information about Spread Footings and give a short summary of the text in Russian.*

SPREAD FOOTINGS



Spread footings provide a stable base or platform that prevents the house from settling into the ground.

The wide base (width) helps create a large area to transfer the weight of the structure to the ground and prevent the structure from sinking. The thickness of the footer provides the footer with the strength needed to support the weight of the structure. In modern construction, a footer is usually 16 to 24 inches wide and 6 to 16 inches thick and made with poured concrete that is rated to withstand 2,000 to 5,000 pounds per square inch (psi) of compression pressure. The dimensions of the footer may vary according to the soil conditions under the structure, the weight (or load) placed on the footing and construction style of the home. Other footing materials used are wood, crushed stone, blocks (granite) and field stones.

A continuous spread (or strip) footing is usually found around the entire perimeter of the structure to support the weight (load) from the exterior or foundation walls. In areas subject to seasonal frost, a footing must be placed below the frost line to prevent frost heaving that may lift and damage the footing and structure.

Ex. 9. *Write down the key sentences and the key words from the text* ***«Spread Footings»*** *and speak about the technology of spread foundations.*

Ex. 10. *Read the text* ***«The Tower of Pisa»*** *and try to reproduce the information closely to the text in your own words.*

THE TOWER OF PISA
Leaning and Lopsided Buildings

The Tower of Pisa in Pisa, Italy is one of the world's most famous leaning buildings. The Tower of Pisa was designed as a bell tower but its main purpose was to promote the town of Pisa. The foundation of the tower was only three meters thick and the soil underneath was unstable. A series of wars interrupted the construction for many years. During the long pause, the soil continued to settle. Rather than abandon the project, builders accommodated the tilt by adding extra height to the upper stories on one side of the Tower. The extra weight caused the upper part of the Tower to lean in the opposite direction.

Over the centuries there have been many attempts to remove or reduce the tilt. In 1990, an Italian government-appointed special commission determined that the tower was no longer safe for tourists, closed it off, and started devising ways to make the building safer.

John Burland, a professor of soil mechanics, came up with the system of removing soil from the north side in order to make the building settle back into the ground and thus reduce the tilt. This worked and the tower was reopened to tourism in 2001.

Today the Tower of Pisa leans at a 3.97 degree angle.

Leaning Tower of Pisa

Location: Pisa, Italy.

Built: 1173 − 1350.

Architect: Unknown. The tower may have been designed by Bonanno Pisano and Guglielmo of Innsbruck, Austria or Diotisalvi.

Ex. 11. *Read more information about leaning towers and discuss it with your groupmates. See the Texts for Supplementary Reading (Texts 1, 2).*

2.2. Grammar: Sequence of Tenses (See Section Grammar)

Ex. 1. *Read and translate the following sentences into Russian paying attention to the rules of the Sequence of Tenses:*

1. He **reported** that the building industry **had developed** from the process of using natural materials for building simple shelters in early times to the complex industrial process of modern times.
2. He **said** that many of the materials used then **were made** in factories before they **reached** the building site.

3. The engineer **said** that deep foundations **could** be made out of timber, steel, reinforced concrete and prestressed concrete.

4. The article **said** that the foundation of large buildings as factories, warehouses, schools **had to** be built of materials that **would bear** heavy weights.

5. We **were said** that today timber piles were still more affordable than concrete or steel as timber **had been** a plentiful, locally-available resource in many areas.

6. The engineer **noted** that when structures **were built** in areas of permafrost, special consideration **had to** be given to the thermal effect the structure **would have** on the permafrost.

7. They **reported** that there **were** special techniques used in building skyscrapers which **would be described** in a separate lecture.

8. The teacher **told** his students that we **might** basically divide the foundations used most commonly in residential construction into four types: pile foundations, continuous or spread footings, foundation walls and mat foundations.

9. He **told** us that high-rise buildings could be described as skyscrapers.

10. Everybody **knew** that spread footing foundations **consisted** of concrete which transferred the loads from walls and columns to the soil.

Ex. 2. *Put the sentences in the past as shown. You should use the rules of the Sequence of Tenses.*

Example: He **says** that the tower **will be reopened** to tourism in 2001.
He **said** that the tower **would be reopened** to tourism in 2001.

1. The article says that new building materials will be used and engineers will be trained to use them.

2. He doesn't know that concrete is generally reinforced using steel rods or bars.

3. The lecturer says there were few specialist builders in early times.

4. Every builder knows that spread footing foundation is not sufficient for high rise building.

5. He says that in the modern industrialized world construction involves the translation of designs into reality.

6. I know that the owner will produce a list of requirements for a project, giving an overall view of the project's goals.

7. The teacher says that there are many routes to the different careers within the construction industry which vary by country.

8. He explains that technical and specialized occupations require more training as theoretical knowledge.

9. It is known that buildings come in a wide amount of shapes and functions, and have been adapted throughout history for a wide number of factors.

10. He says that the first cave paintings, buildings have also become the objects of artistic expression.

2.3. Tests

Ex. 1. *Open the brackets and put the verb in the suitable form paying attention to the Sequence of Tenses:*

1. It is known that an earthquake (**to move**) the arch and **causes** tensile forces in it.
2. They said that the new system in the university canteen (**to be**) a welcome innovation.
3. He reported that beams (**to be**) very important members in many structures.
4. We knew that roofers (**to work**) outdoors and at heights, and (**to use**) ladders the next day.
5. The master informed us that the metal structures of the building (**to assemble**) on the site the following week.
6. The engineer said that it (**to be**) necessary to place trusses to carry the ends of the beam.
7. We were said that a handsome mansion (**to erect**) upon a new site in 1998.
8. She says that a large studio apartment in this block (**to locate**) within walking distance to the tube.
9. He said that cinder bricks (**to have**) excellent properties and a low price.
10. They informed us that in some localities water (**to be**) available in unlimited quantities.

Ex .2. *Choose the right variant:*

1. A … from the destroyed Twin Towers will be displayed inside the National 9/11 Museum.

a) top soil b) water table c) beam

2. Builders in ancient Egypt did not use …-bearing arches.

a) load b) construction c) wall

3. Since 1928, Chinese archeologists have unearthed extensive architectural …, tombs, thousands of bronze vessels.

a) hollow b) pile c) foundations

UNIT 3. ROOFS OF THE HOUSES

Лексика: тексты **«Roofs: Types and Parts»**, **«Green roofs»** и упражнения.
Грамматика: инфинитив.
Лексико-грамматический тест.

3.1. Speech Pattern

3.1.1. Active Vocabulary

Ex. 1. *Read and learn the words from the active vocabulary:*

adobe – сырец, кирпич воздушной сушки
cast iron – чугун
covering ['kʌv(ə)rɪŋ] – покрытие
dome – купол, свод
drain – дренажная труба
flat – плоский, ровный
gabled ['geɪbld] – остроконечный
hipped roof – вальмовая четырёхскатная крыша
inclination [ˌɪnklɪ'neɪʃ(ə)n] – уклон, скат
leak – утечка, течь
membrane surface – кровельная поверхность
precipitation [prɪˌsɪpɪ'teɪʃ(ə)n] – атмосферные осадки
puncture ['pʌŋkʧə] – прокол, дырка, пробивание
to penetrate ['penɪtreɪt] – проникать внутрь, просачиваться
reinforced concrete beam – железобетонная балка
rigid ['rɪʤɪd] – жёсткий
ridge [rɪʤ] – конёк крыши
shed roof – односкатная крыша
slope – скат, уклон
shingle – кровельная черепица
slate – шифер
steel girder – стальная балка
to trap – поглощать
to tend – иметь тенденцию, склоняться к чему-либо
uppermost – верхний, главный, господствующий

Ex. 2. *Find the synonyms:*

predominant;	perforation;	uppermost;	trickle;
to permeate;	roof ridge;	dome;	puncture;
cupola;	covering;	ridgepole;	to penetrate;
rigid;	leak;	roof;	hard.

Ex. 3. *Translate from English into Russian the following words and word-combinations and use them in the sentences of your own:*

an uppermost layer;	a sloped roof;	a roof ridge;
a covering of the roof;	a flat roof;	a house drain;
a slope of the roof;	a gabled roof;	acid precipitation;

an inclination of the roof;
a variable inclination;
to tend to the same conclusion;
an air leak;
a heat leak;
a moisture trap;
a rigid support for a tent;
wooden shingles;
metal shingles;
a roofing slate.

Ex. 4. *Guess the cross-word*:

По вертикали:

1. Highest in place, rank, or importance.

4. A surface of which one end or side is at a higher level than another.

5. A thing used to cover something else, typically in order to protect.

8. A rounded vault forming the roof of a building or structure, typically with a circular base.

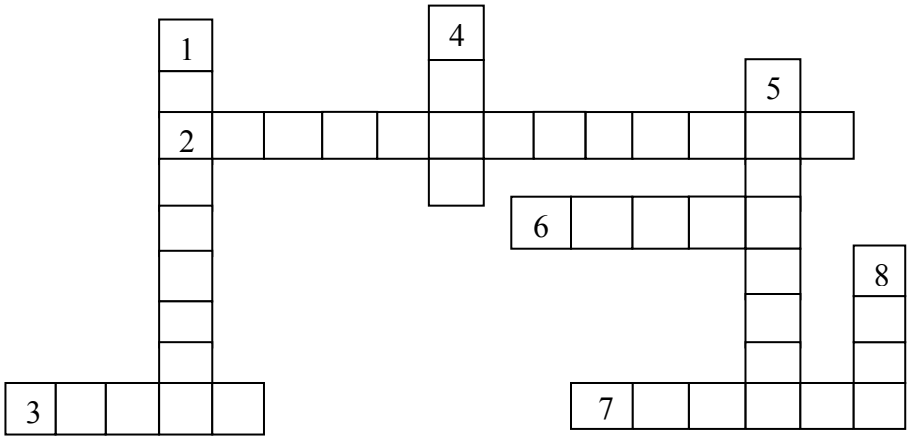
По горизонтали:

2. Rain, snow, sleet.

3. A flat piece of rock used as roofing material.

6. The line or edge formed where the two sloping sides of a roof meet at the top.

7. A rectangular tile of asphalt composite, wood, metal, or slate used on walls or roofs.



Ex. 5. *Complete the sentences using the given words:*

Cathedral dome, shingles, dome, steel girders, concrete, ridge, leaking, covering, hipped, paint.

1. The … … could not be raised more than 30 stories at a time, so several large cranes were used to pass the girders up to the higher floors.
2. Leonardo produced designs for several types of construction equipment, and his ideas for cranes were particularly useful for this … project.
3. … are installed starting from the bottom of the roof; they are nailed in place with large headed nails and overlapped.
4. Underground homes are typically made of reinforced … because it does not degrade and exhibits high compressive strength.
5. A ventilation runs along the … of the roof to expel trapped vapor and heat, so that the roofing does not buckle and deteriorate over time.

6. If water is coming through the ceiling material, it usually means the roof is … , and it should be considered an emergency.

7. The … is made from cut branches and leaves, placed loosely atop, leaving open space for the stars to be viewed and rain to enter.

8. A sharp, putty knife or a blade designed just for … scraping is your best bet. You'll minimize the dust, and you'll have better control than if you used a sander.

9. The roof can reveal a lot about any house. This roof has a low, gradual slope. It's what we call a … roof.

10. During the early 1400s, the painter and architect Filippo Brunelleschi designed the great … ….

Ex. 6. *Make the following sentences complete by translating the words and phrases in brackets into English. Pay attention to the vocabulary words.*

1. Application of this industrial process ranges from scrubbing rust off of (**стальные балки**) to inscribing gravestones.

2. What main materials are used in the (**строительство купола**)?

3. Asphalt (**кровельная черепица**) is one of the more affordable materials and therefore the most common residential roofing type, but also one of the less attractive.

4. Bored pile is another type of (**железобетонный**) pile, which is used to support high building producing heavy vertical loads.

5. In fact, one way to prevent moss from growing is to attach zinc strips to the (**конёк**) of your roof.

6. They are looking for signs of a (**протекающая крыша**), but what you don't want them to see are stains from grease or smoke and ceiling cracks.

7. When the paint is peeling on a house, many homeowners decide for (**покрытие**) it with vinyl siding.

8. (**Жёсткая**) copper pipe is great for water supply because it resists corroding, and does not carry the health risk that polyvinyl chloride has.

9. (**Четырёхскатная крыша**) and wide eaves underlines the long, low profile of the home.

10. The hurricanes in Florida taught us that the most storm-resistant homes are constructed with concrete, (**куполообразные**) homes have held up surprisingly well.

Ex. 7. *Study the patterns showing the ways some nouns are formed from verbs and the ways some adverbs are formed from adjectives. Complete the charts, translate formed words.*

Pattern 5

Verb + **-age** ⟶ Noun

Example: pack – паковать ⟶ pack**age** – упаковка

Verb	Noun	Verb	Noun
to use		to merry	
to store		to leak	
to cover		to link	

Pattern 6

Adjective + **-ly** ⟶ Adverb

Example: rapid – быстрый ⟶ rapid**ly** – быстро

Adjective	Adverb	Adjective	Adverb
frequent		typical	
partial		successful	
vertical		common	
main		usual	
proper		particular	

3.1.2 The text «Roofs: Types and Parts»

Ex. 1. *Before you read the text discuss the following questions with your groupmates:*

1. When did people begin to build houses?
2. What was the purpose of houses construction?
3. What materials did ancient people use for roofing in ancient times?
4. What materials do people use for roofing at present?

Ex. 2. *Read the text* ***«Roofs: Types and Parts»*** *and translate it into Russian.*

ROOFS: TYPES AND PARTS

One of the most important elements of your house is the roof. A roof is the covering on the uppermost part of a building. It protects the building and its contents from the effects of weather: rain, heat, sunlight, cold, snow and wind.

The characteristics of a roof are dependent upon the climate of an area, the purpose of the building that it covers, the available roofing materials and the local traditions of construction and wider concepts of architectural design and practice. Roofs can be sloped, flat or domed. Within these three broad categories, many variations are possible, for example mansard, hipped, gabled, conical etc.

Sloped Roofs

A sloped or pitched roof is a roof with two slopes that meet at a central ridge. Sloped roofs prevent buildings from heavy rains and snowfalls. Water can run down sloped roofs and go down to the drain. A sloped roof can be a simple or a complex roof form using a combination of different shapes mentioned above.

Flat Roofs

Flat roofs are completely different from sloped roofs. These are used in regions with a low precipitation and dry climate. The traditional materials used are concrete, brick or adobe. In contrast to the sloped form of a roof, a flat roof is horizontal or nearly horizontal. Materials that cover flat roofs typically allow the water to run off freely from a very slight inclination.

Flat roofs tend to be attractive to human traffic. Anything which produces a crack or puncture in the surface can quite readily lead to leaks. One of the more interesting emerging methods of protecting the roofing membrane is to use a layer of topsoil and grasses. Care should be taken not to plant anything the roots of which will penetrate the membrane surface. The green roof traps moisture on the roof and keeps it up in the soil and plants, but not on the membrane surface.

Parts of a roof

There are two parts of a roof, its supporting structure and its uppermost weatherproof layer.

The supporting structure of a roof usually comprises beams that are long and of strong, fairly rigid material such as timber, and since the middle of 19th century, cast iron or steel. Timber lends itself to a great variety of roof shapes. The timber structure can fulfill an aesthetic as well as practical function. With continual improvements in steel girders, these became the major structural support for large roofs, and eventually for ordinary houses as well. Another form of girder is the reinforced concrete beam, in which metal rods are encased in concrete, giving it greater strength under tension.

Uppermost layer shows great variation depending upon availability of material. In simple architecture, roofing material is often vegetation, such as thatches, sea grass and bamboo with a life of perhaps 40 years. In areas with an abundance of timber, wooden shingles are used. The slate roof is often considered the best type of roofing because slate is an ideal and durable material. A slate roof may last 75 to 150 years, and even longer.

In the 20th century a large number of roofing materials were developed, including roofs based on bitumen, on rubber and on a range of synthetics such as thermoplastic and on fiberglass. Since then, many types of metal roofing have been developed. Steel shingle roofs last about 50 years or more depending on both the method of installation and the moisture barrier (underlayment) used.

Examples of roofs:

1  2  3  4 

1. Flat roof, Western Australia.
2. Mansard roof on a county jail, Ohio.
3. Temple roof Chang Mai, Thailand with a decorated gable end and ceramic tile covering.
4. Conical Chinese roof at the Nanhai Academy in Taipei.

3.1.3. Drilling

Ex. 1. *Give English equivalents to the following words and phrases:*

влияние погоды;
доступные кровельные материалы;
архитектурное проектирование;
незначительный скат;
сочетание различных форм;
упомянутые выше;
низкий уровень атмосферных осадков;
постоянные улучшения;
железобетонная балка;
кровельная поверхность;
придавая наибольшую прочность;
изобилие лесоматериала;
деревянная черепица;
синтетические материалы.

Ex. 2. *Answer the questions to the text* ***«Roofs: Types and Parts»****:*

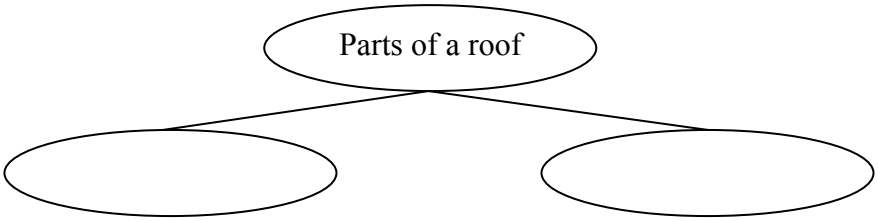
1. What is a roof?
2. What are the functions of the roof?
3. What do the roof characteristics depend on?
4. What types of roofs do you know?
5. What the main characteristics of sloped roofs do you know?
6. What is a flat roof?
7. What materials are used to build a flat roof?
8. How many parts of a roof are there?
9. What does the supporting structure of a roof consist of?
10. What are the functions of timber structure in supporting system?
11. What materials can be used for making beams?
12. What uppermost material can be used for roofing?

Ex. 3. *Find in the text the passage describing the protecting of flat roof uppermost and prepare a good reading of this passage.*

Ex. 4. *Complete the sentences according to the information from the text:*

1. Sloped roofs prevent buildings from ….
2. Flat roofs are used in regions with ….
3. Any flat roof is nearly ….
4. Using a layer of topsoil and grasses on the roof can protect ….
5. A roof consists of two parts: ….
6. The timber structure can fulfill two functions: ….
7. The supporting beams can be made of ….
8. One of the best types of roofing material is ….

Ex. 5. *Complete the scheme using the information from the text:*



Ex. 6. *Identify the topic of each paragraph of the text* ***«Roofs: Types and Parts»****.*

Ex. 7. *Find in the text* ***«Roofs: Types and Parts»*** *the key words to speak about roofs. Find in the each paragraph of the text a key sentence and write them down in your copy-books.*

Ex. 8. *Give a short summary of the text* ***«Roofs: Types and Parts»*** *in: a) Russian; b) English.*

Ex. 9. *Skim the text* ***«Green Roofs»*** *and try to understand what it is about and what information is new to you.*

GREEN ROOFS

A green roof is a roof of a building that is partially or completely covered with vegetation planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems. (The use of "green" refers to the growing trend of environmentalism and does not refer to roofs which are colored green, as with green roof tiles or roof shingles).

Container gardens on roofs, where plants are maintained in pots, are not generally considered to be true green roofs, although this is an area of debate. Rooftop ponds are another form of green roofs.

Also known as "living roofs", green roofs serve several purposes for a building, such as absorbing rainwater, providing insulation, creating a habitat for wildlife, and helping to lower urban air temperatures and combat the heat island effect. There are two types of green roofs: intensive roofs, which are thicker and

can support a wider variety of plants but are heavier and require more maintenance, and extensive roofs, which are covered in a light layer of vegetation and are lighter than an intensive green roof.

Traditional roof gardens, which require a reasonable depth of soil to grow large plants or conventional lawns, are considered intensive because they are labour-intensive, requiring irrigation, feeding, and other maintenance. Intensive roofs are more park-like with easy access and may include anything from kitchen herbs to shrubs and small trees. Extensive green roofs, by contrast, are designed to be virtually self-sustaining and should require only a minimum of maintenance, perhaps a once-yearly weeding.

The term green roof may also be used to indicate roofs that use some form of green technology, such as a roof with solar thermal collectors or photovoltaic panels. Green roofs are also referred to as eco-roofs, vegetated roofs, living roofs.

Examples of green roofs:

Traditional sod roofs
in the Faroe Islands

Green roof of City Hall
in Chicago

The main disadvantage of green roofs is the higher initial cost. Some types of green roofs do have more demanding structural standards especially in seismic regions of the world. Some existing buildings cannot be retrofitted with certain kinds of green roof because of the weight load of the substrate and vegetation exceeds permitted static loading. Depending on what kind of green roof it is, the maintenance costs could be higher, but some types of green roof have little cost. Some kinds of green roofs also place higher demands on the waterproofing system of the structure both because water is retained on the roof and due to the possibility of roots penetrating the waterproof membrane. However, a green covering doesn't need water to be retained on the roof as these plants can tolerate long periods without rainfall, so a drainage layer will combat this particular problem. Moreover, properly-designed and -installed systems include root barriers. It is true that installing adequate waterproofing systems and root barriers can increase the initial cost of the roof; however, due to the fact that a green roof protects the waterproofing membrane from the elements, particularly UV light, the life expectancy of the membranes is doubled or even tripled.

Another important distinction is between pitched green roofs and flat green roofs. Pitched sod roofs, a traditional feature of many Scandinavian buildings, tend to be of a simpler design than flat green roofs. This is because the pitch of the roof reduces the risk of water penetrating through the roof structure, allowing the use of fewer waterproofing and drainage layers.

Ex. 10. *Find in the text* ***«Green Roofs»*** *the passage describing the advantages and disadvantages of green roofs: a) give a good translation of it; b) prepare a good reading of it; c) complete the table:*

The advantages of green roofs	The disadvantages of green roofs

Ex. 11. *Find in the text* ***«Green Roofs»*** *the passage describing the types of green roofs and complete the table:*

The types of green roofs	The characteristics of green roofs types

Ex. 12. *Divide the text* ***«Green Roofs»*** *into parts, determine the main idea of each part and use these sentences as a plan to speak about roofs.*

Ex. 13. *Find in the text* ***«Green Roofs»*** *key words which can be used to speak about green roofs.*

Ex. 14. *Retell the text* ***«Green Roofs»*** *in English using the plan and key words.*

Ex. 15. *Look at the pictures after the text* ***«Green Roofs»*** *and try to describe them using the following words:*

1. Traditional sod roofs in the Faroe Islands: to be located, suburb, in the village, to be covered, countryside, rural house, to use, sloped roofs, a simpler design, polluted air, waterproofing and drainage layers, to clean, calm environment, to create the atmosphere of smth.
2. Green roof of City Hall in Chicago: to be situated, megapolis, in the city, to be covered, multi-storey buildings, to use, flat roofs, polluted air, to look like a garden, as a decorative element, to have a rest, waterproofing and drainage layers, to clean, a lot of space to do smth., fast traffic, smog.

Ex. 16. *Read and learn the dialogue by heart:*

Customer: I would like you to develop the project of a countryside house.

Architect: Let's see. How many stories would you like to have in your house?

Customer: A two-storey house with a garage. Eight rooms and two staircases.

Architect: What type of foundation would you like to have?

Customer: I think spread footing.

Architect: What will the foundation be made of? Concrete?

Customer: I think reinforced concrete.

Architect: Well, let's discuss the type of the roof.

Customer: What would you advise me?

Architect: To my mind the best variant is a gable roof.

Customer: Thank you for your recommendations.

Ex. 17. *Dramatize your own dialogue. Imagine that you come to the architect firm. Ask the architect to help you to make the choice concerning: 1) the foundation of your future house; 2) the roof of your future house.*

Ex. 18. *Read more information about roofs and discuss it with your groupmates. See the Texts for Supplementary Reading (texts 5, 6).*

Ex. 19. *Make up a project on the following items:*

1. The types of roofs in modern cities.
2. The roof of the house of my dream.

3.2. Grammar: Infinitive (See Section Grammar)

Ex. 1. *Read and translate the following sentences into Russian paying attention to infinitives and their functions:*

1. Intensive green roofs often have a soil depth of a foot or more, and require substantial structural elements **to support** the weight of the whole roof.
2. Intensive roofs can **sustain** a wide range of plant species and typically require a fair amount of regular maintenance.
3. The rafters, tie beams and joists serve **to transmit** the weight of the roof to the walls of the building.
4. Some modern steel roof sheeting materials are coated with an alloy of zinc and aluminium **to give** it some of the durability.
5. There are many different profiles and styles available **to fit** most every building situation.
6. Plants have the ability **to reduce** the overall heat absorption of the building which then reduces energy consumption.
7. Plantings in containers are used extensively in roof top gardens **to prevent** stress to the roof's waterproofing.
8. The purpose of a roof is **to protect** the building and its contents from the effects of weather.

9. In the 19th century, iron, electroplated with zinc **to improve** its resistance to rust, became a light-weight, easily-transported, waterproofing material.

10. Hipped roofs are thought **to have** originated in the Russian North, as they prevented snow from piling up on wooden buildings during long winters.

Ex. 2. *Fill in the gaps with the appropriate infinitive:*

To commemorate, to change, to fall, to suit, to maintain, to keep out, to carry, to recycle, to counteract, to make.

1. Often, repairing the flashings or providing new flashings is all that is needed … the roof watertight again.
2. … the effects of wind-uplift forces, the roofing and insulation should be adequately fastened to the roof deck.
3. Roofing metals are easy …, and one can even get reimbursed for them at a scrap center.
4. The tower was so high that it took a man a whole year … bricks from the ground to the top.
5. The coverings of buildings constructed over … rain and wind and to preserve the interior from exposure to the weather, are called roofs.
6. The interior should be planned … the requirements of the occupants while the exterior must be simple without any excesses.
7. The Leaning Tower of Pisa is predicted … over between 2030 and 2040.
8. The ancient Egyptians often erected their huge constructions … their kings and pharaohs.
9. With this type of system, only the zone within 5 feet of the door needs … comfortable temperatures.
10. Colours can be used … distance perspective visually.

3.3. Tests

Ex. 1. *Underline the Infinitive and determine its function:*

1. People in the world's coldest climates prefer to live in timber-framed houses.
2. Many new blocks of flats are to be built according to the new development plan.
3. Everything changed, for the first time it was possible to produce large quantities of a product cheap enough for most people.
4. In 1861, William Morris started up a design company to produce handcrafted furniture.
5. They wanted to create a style that reflected the old ideals of craftsmanship with artistic form, shape and colour.

6. To create and optimize the process, NASA designed bio-electromechanical devices.

7. Many different types of structures can be built using reinforced concrete including slabs, beams, walls, foundations and more.

8. Cracking can allow moisture to penetrate and corrode the reinforcement.

9. This type of cement is designed to be particularly resistant to a sulfate attack.

10. To build means construct (something) by putting parts or material together.

Ex. 2. *Choose the right variant:*

1. Materials like …, cob and straw are economical, energy-saving, environmentally-friendly, and sustainable.

a) sand b) adobe c) clay

2. I recommend replacing the … on your roof with Spanish roof tile.

a) straw b) stones c) shingles

3. A … sloping in just one direction is the least expensive.

a) shed roof b) hipped roof c) cast iron

UNIT 4. THE INTERIOR OF THE HOME: FLOORS AND CEILINGS

Лексика: тексты **«Floors»**, **«Ceilings»** и упражнения.
Грамматика: причастие настоящего времени.
Лексико-грамматический тест.

4.1. Speech Pattern

4.1.1. Active Vocabulary

Ex. 1. *Read and learn the words from the active vocabulary:*

adhesive [əd'hi:sɪv] – клеящий материал, липкий
to apply – применять (к чему-либо)
dependable – надёжный
finished surface – окончательно обработанная поверхность
floating floor – фальшпол, плавающий пол, перекрытие раздельного типа (с прослойкой звукоизоляции)
grease – жир
hardwood floors – полы из твёрдых пород древесины
internal structure – внутренняя структура

layer – слой
loose – слабый, неплотный
plumbing ['plʌmɪŋ] – водопроводная система
to refer – относиться, касаться, ссылаться
softwood floors – полы из мягких пород древесины
to sand – шлифовать
stringent ['strɪnʤənt] – строгий
to stain – окрашивать
subfloor – накат, чёрный пол
to treat – обрабатывать
tedious ['tiːdɪəs] – трудоёмкий, утомительный
wiring – проводка
workmanship – качество работы

Ex. 2. *Translate the following phrases from English into Russian using the active vocabulary:*

electrical wiring;	a sanded surface;	a spot of grease;
an upper layer;	a stained glass;	a dependable design;
to be referred to 18th century;	a stained paper;	workmanship defect;
to apply the new method;	a loose flooring;	stringent requirements;
	to loosen;	to be treated with wax.

Ex. 3. *Fill in suitable words from your active vocabulary:*

1. May I … you back to my earlier remarks on this subject?
2. If the … surface is fairly old and extremely slick, make a mixture of water and alcohol to brighten the surface.
3. … also refers to a system of pipes and fixtures installed in a building for the distribution of potable water and the removal of waterborne wastes.
4. Materials for … interior electrical systems in buildings vary depending on type of occupancy and size of the building.
5. Modern construction techniques now rarely use wood building frames and solid … are used almost exclusively for their appearance.
6. This spot of … has spoiled the whole appearance.
7. He was a good friend, a … companion.
8. You must not use detergents that contain soap as well as you must not … the surface with the substances covering the surface (wax, polymer, etc.).

Ex. 4. *Make the following sentences complete by translating the words and phrases in brackets into English.*

1. One of the easiest (**водопроводный**) jobs in the world: installing your own kitchen faucet.
2. (**Наждачная бумага**) is a flexible, abrasive material used to smooth down bumpy or otherwise unfinished surfaces.
3. Being creative through art is rewarding and enriching, but there are some unavoidable art tasks that are simply (**утомительный и скучный**).

4. (**Фальшпол**) is a method of installing a floor rather than a specific type of flooring material. In this method, the individual boards attach to each other (either by means of gluing or snapping together) but do not attach to the sub-floor on which it is being installed.

5. Professional painters use it to clean off surfaces prior to painting, (**окрашивание**), or otherwise coating with some kind of permanent liquid treatment.

6. If you are in the need to wire your home, you should know how to run (**проводку**) or how to connect it to devices.

7. Garage floor paint (**лучше всего наносить**) to concrete that is clean, dry and free of serious cracks or damage. Cracks and small holes can be patched with concrete before painting.

8. Bamboo is a natural covering material that has many of the properties of (**напольное покрытие из твёрдых пород древесины**), even though it is actually produced from a type of grass.

9. Inject the crack with wood glue, and insert the nails with a nail set so that their heads are below the board's (**окончательно обработанная поверхность**).

10. By gluing numerous thin strips of wood in alternating directions (**слой за слоем**), plywood is much less likely to expand or shrink based on moisture in the environment, and the alternating construction creates a board that is much stronger in each direction than a similarly sized board cut from a single tree.

Ex. 5. *The table below contains words from your active vocabulary that have been chopped in half. Find the pieces that fit together and write them down.*

depend	work	bing	sive
floor	tedi	er	sus
adhe	sub	ship	man
lay	plum	able	

Ex. 6. *Study the patterns showing the ways some adjectives are formed from verbs and nouns. Complete the charts, translate formed words:*

Pattern 7

Verb + **-able** ⟶ Adjective

Example: move – двигаться ⟶ mov**able** – передвижной

Verb	Adjective	Verb	Adjective
to install		to drink	
to depend		to love	
to accept		to pay	
to pass		to measure	
to adapt		to think	

Pattern 8

Noun + **-al** ⟶ Adjective

Example: norm – норма ⟶ norm**al** – нормальный

Noun	Adjective	Noun	Adjective
addition		practice	
condition		mechanics	
accident		gravitation	
fundament		education	
structure		industry	

4.1.2. The text «Floors»

Ex. 1. *Read the international words and give their Russian meanings:*

comfort;	typically;	technology;	parquet;	vibration;
interior;	bamboo;	structure;	system;	design;
service;	component;	aesthetic;	modern;	identify.

Ex. 2. *Read and translate the text* ***«Floors»****:*

FLOORS

The interior of the home refers to all the finished surfaces on the interior walls, ceilings and floors as well as such components as doors, windows and stairs. The finished interior of a home includes the internal structure and systems (plumbing and electrical) and should be designed to provide a certain level of comfort and aesthetic enjoyment.

Here we are going to speak about floors. A floor is the walking surface of a room. Floors vary from simple dirt in a cave to many-layered surfaces using modern technology.

Floors typically consist of a subfloor for support and a floor covering. In modern buildings the subfloor often has electrical wiring, plumbing, and other services built in. The floor covering is any finishing material applied over a floor structure to provide a good walking surface.

Different materials can be used as the floor covering. It may be stone, wood, bamboo, metal, or any other material that can hold a person's weight. Using of the material depends on a place where it will be installed. Every kind of material has its advantages and disadvantages. For example:

Hardwood floors are very common in today's market. The most commonly used wood is oak. It is usually identified by its hardness. The material can be easily installed, sanded, stained and finished.

Parquet floors are usually high quality floors. The most common problem with this flooring is that the adhesive becomes loose. You can usually sense

loose flooring when you walk over the loose area. Floors tend to loosen with moisture or conditions with high relative humidity, and in high traffic areas. This kind of floors has a "V" joint between the pieces, which makes re-finishing difficult. This joint collects dirt and greases over the years, which makes cleaning and preparing the floor tedious.

Vinyl goods are dependable, as long as the installation is performed properly. There is a wide range in quality. Loose tiles are often a sign of moisture or workmanship concerns, particularly in the kitchen and basement areas.

Floor vibration is a problem with floors. Wood floors tend to pass sound, particularly heavy footsteps and low bass frequencies. Floating floors can reduce this problem. Concrete floors are usually so massive they do not have this problem, but they are also much more expensive to construct and must meet more stringent building requirements due to their weight.

Floor cleaning is a major occupation throughout the world. Cleaning is essential to remove dirt. Floors are also treated to protect or beautify the surface. The correct method to clean one type of floor can often damage another, so it is important to use the correct treatment.

4.1.3. Drilling

Ex. 1. *Find English equivalents according to the information from the text* ***«Floors»****:*

законченный интерьер;
обеспечивать определённый уровень комфорта;
многослойная поверхность;
другие встроенные коммуникации;
шагающая поверхность;
выдержать вес человека;
распознаваться по прочности;
относительно высокая влажность;
V-образное соединение;
передавать звук;
отвечать строгим строительным требованиям.

Ex. 2. *Answer the questions to the text* ***«Floors»****:*

1. What does the term "interior" mean?
2. What is a floor?
3. What does the floor consist of?
4. Why is the subfloor used?
5. What materials can be used as the floor covering?
6. What does using of the materials in flooring depend on?
7. What are the advantages of using oak as the floor covering?
8. What are the disadvantages of using parquet floors?
9. What problems can floor have?
10. How can these problems be solved?
11. How should floors be cleaned?

Ex. 3. *Find in the text* ***«Floors»*** *the information about the floor types and fill in the table. You may use any additional information if you like.*

Types of a floor covering	Advantages	Disadvantages

Ex. 4. *Tell your group mates what type of floor you would like to choose for your flat. Explain your choice.*

Ex. 5. *Read and learn the dialogue by heart:*

Manager: The customer said he wanted thicker lino for the floor.
Worker: Did he say anything about the colour?
Manager: Yes, the colour should be matched with the walls colour.
Worker: Well, the colour must be light, more lighter than the lino we have now.
Manager: I will order to bring the proper lino today.
Worker: Ok. And we will also need two types of marble tiles for the bath-room and the toilet.
Manager: Yes, I will order it tomorrow.

Ex. 6. *Make up your own dialogues on the following items:*

1. Dialogue between a manager and a worker.
2. Dialogue between a shop-assistant and a buyer.

Ex. 7. *Read the text* ***«Ceilings»*** *and find the answers to the questions:*

1. What is a ceiling?
2. What types of ceilings do you know?
3. How have ceilings been decorated in previous centuries?
4. What was the purpose of that decoration?
5. Do you know any celebrated ceiling?

CEILINGS

A ceiling is an overhead interior surface that covers the upper part of a room.

Ceilings are classified according to their appearance or construction. There are cathedral, dropped, concave, coffered, cove ceilings, raised floor.

A cathedral ceiling is any tall ceiling area similar to those in a church. A dropped ceiling is one in which the finished surface is constructed anywhere from a few inches to several feet below the structure above it. This may be done for aesthetic purposes, such as achieving a desirable ceiling height or practical purposes such as providing a space for HVAC or piping. An inverse of this would be a raised floor. A concave or barrel shaped ceiling is curved or rounded, usually for visual or acoustical value. A cove ceiling uses a curved plaster transi-

tion between wall and ceiling; it is named for cove molding, a molding with a concave curve.

Ceilings have frequently been decorated with fresco painting, mosaic tiles and other surface treatments. While hard to execute a decorated ceiling has the advantage that it is largely protected from damage by fingers and dust. In the past, however, this was more than compensated for by the damage from smoke from candles or a fireplace. Many historic buildings have celebrated ceilings. Perhaps the most famous is the Sistine Chapel ceiling by Michelangelo.

The most common ceiling that contributes to fire-resistance ratings in commercial and residential construction is the dropped ceiling. In the case of a dropped ceiling, the rating is achieved by the entire system, which is both the structure above, from which the ceilings is suspended, which could be a concrete floor or a timber floor, as well as the suspension mechanism and, finally the lowest membrane or dropped ceiling.

Comments:

a cathedral ceiling – высокий потолок;

a dropped ceiling – подвесной потолок;

a concave ceiling – вогнутый потолок;

a coffered ceiling – кессонный потолок;

a cove ceiling – потолок с падугами;

a raised floor – фальшпол (технологический пол), под которым проходят все кабели, устанавливаемый в больших вычислительных центрах;

a cove molding – калёвка (фигурный профиль бруска или доски, получаемый строганием);

surface treatments – поверхностная обработка;

mosaic tiles – ковровая плитка (керамическая плитка на бумажной основе);

fire-resistance rating – предел огнестойкости;

HVAC (heat, ventilation, air conditioning) – отопление, вентиляция и кондиционирование воздуха.

Ex. 8. *Find in the text* ***«Ceilings»*** *the following equivalents:*

верхняя внутренняя поверхность;	калёвка;
окончательно обработанная поверхность;	поверхностная обработка;
эстетические цели;	быть трудным для исполнения;
желаемая высота потолка;	праздничные потолки;
в противоположность этому;	промышленные строения;
зрительная ценность;	вся система;
	быть подвешенным.

Ex. 9. *Look through the text* ***«Ceilings»*** *and complete the following table:*

Type of a ceiling	Brief description of a ceiling

Ex. 10. *Divide the text* ***«Ceilings»*** *into logical parts and entitle them. Retell the content of the text briefly in Russian. Use the comments to the text if necessary.*

Ex. 11. *Read more information about floors and ceilings and discuss it with your groupmates. See the Texts for Supplementary Reading (Texts 7, 8, 9, 10).*

Ex. 12. *Make up a project on the following items:*

1. Choose any type of a ceiling and present pictures and description of it.
2. Choose any type of a floor and present pictures and description of it.

4.2. Grammar: Participle I (See Section Grammar)

Ex. 1. *Read and translate the following sentences paying attention to the forms and functions of the Participle I.*

I. Attribute

1. The natural stone is used for footing and foundations for external walls carrying the load.
2. The design being prepared by the highly skilled experts' team will be completed next month.
3. Floors vary from simple dirt in a cave to many-layered surfaces using modern technology.
4. Building science is the collection of scientific knowledge that focuses on the analysis and control of the physical phenomena affecting buildings.
5. The consulting engineers are of the opinion that a steel frame ought to be used in the interests of the speed of construction.

II. Adverbial modifier

1. The British started their space science developments using plants as a key factor in astronaut life-support.
2. In general stones are used as basic structural components in buildings, while mud is used to fill the space between, acting as a type of concrete and insulation.
3. Having examined the relationship between stress and strain we determined the elastic modulus.

4. When purchasing a new house the buyer has less legal protection than when buying a new car.

5. This type of ceilings has a “key panel” (usually in the corner) which can be removed, allowing for the other panels to be slid out of the grid one by one.

Ex. 2. *Read and translate the following sentences paying attention to the Absolute Participle Construction:*

1. Solid hardwood floors were originally used for structural purposes, being installed perpendicular to the wooden support beams of a building.
2. All things being equal, concrete with a lower water-cement ration makes a stronger concrete than that with a higher ration.
3. Residential as well as other types of construction generating a lot of waste, careful planning is needed in this area.
4. Some cement plants are very large, their annual production exceeding 3,000,000 tons of cement.
5. Most people having graduated with civil engineering degrees, they can start with jobs that require a low level of responsibility, and as the new engineers prove their competence, they are trusted with tasks that have larger consequences and require a higher level of responsibility.

4.3. Tests

Ex. 1. *Choose the wright variant:*

1. Roof means the exterior surface and its **supported / supporting** structures on the top of a building.
2. The Great Pyramid of Khufu was built around 2560 B.C., **taking / was taking** about 20 years to complete.
3. To construct a safe and effective green roof isn’t always cheap, **depending / depended** on the building and its existing/be existing roof structure.
4. If your **existing / exist** driveway is in good condition and is not severely cracked, the hot-mix asphalt can be laid on the top of your driveway.
5. **An ill-fitting / an ill-fiting** mask can leak and be dangerous, only **offering / offered** the illusion of protection.
6. When **applying / having applied** clears, the biggest mistake is to apply too much.
7. There are a number of things to consider when **selecting / having been selected** paint colors for interior and exterior painting.
8. While **designing / designed** the colour scheme, it is important to avoid the colour that stands alone from the other colours.
9. **A sagging / was sagging** and **bubbling / having bubbled** ceiling is a sign that water is leaking onto and soaking the ceiling.
10. **Using / ussing** a putty knife, score the hairline crack to open its edges.

Ex. 2. *Choose the right variant:*

1. The … in a building consists of the water and drainage pipes, baths, and toilets in it.

a) climbing b) plumbing c) pipes

2. Is it possible to install ceramic tile directly onto plywood ….

a) subfloor b) door c) window

3. That … journey bored me to death.

a) joyful b) tedious c) important

UNIT 5. THE INTERIOR OF THE HOME: WALLS

Лексика: текст **«Types of Walls»** и упражнения.
Грамматика: причастие прошедшего времени.
Лексико-грамматический тест.

5.1. Speech Pattern

5.1.1. Active Vocabulary

Ex. 1. *Read and learn the words from the active vocabulary:*

acoustic performance rating – допустимое значение характеристики
to be torn down – быть снесённым (о стене)
boundary wall – стена – ограда
to delineate [dɪ'lɪnɪeɪt] – очерчивать
dike – дамба
fibre ['faɪbə] – волокно
fence – ограда, забор
insulation – изоляция
levee ['levɪ] – речной причал
to mount – монтировать, крепить
masonry – каменная или кирпичная кладка
mural – фреска, стена
opaque [ə'peɪk] – непроницаемый, непрозрачный
outlet – штепсельная розетка
partition wall – разделительная перегородка, переборка
relevant ['reləvənt] – иметь отношение к чему-либо
retaining wall – подпорная стенка
sea wall – набережная
sheeting – листовой материал
structural wall – несущая стена
structural element – несущий элемент, часть здания
tiling – облицовка плиткой

Ex. 2. *Find the synonyms among given words*:

to draw;	fresco;	to delineate;	filament;
structural wall;	fibre;	partition wall;	mural;
to mount;	lightproof;	opaque;	to install.

Ex. 3. *Translate the following phrases using the active vocabulary; make up your own sentences with them:*

a mural painting;	to be torn down two	mounted;
to build a fence;	years ago;	mountable;
a fence around smth.;	sound insulation;	fibre cement;
an opaque wall;	air insulation;	a fibre cement sheeting;
a concrete masonry;	to build a dike;	to tile the walls;
to delineate a building;	to prevent flooding from the sea;	to fix tiles.

Ex. 4. *Match the nouns on the left with a suitable item on the right. Use each item once only:*

1. sea wall	a) stonework
2. mural	b) the action of insulating something
3. dike	c) a wall or embankment erected to prevent the sea from encroaching on an area of land
4. fence	d) a painting or other work of art executed directly on a wall
5. insulation	e) a low wall or earthwork serving as a boundary or defense
6. masonry	f) a barrier or other upright structure, typical of wood or wire, enclosing an area of ground
7. opaque	g) a point in an electrical circuit from which current may be drawn
8. sheeting	h) describe or portray
9. delineate	i) not transparent
10. outlet	j) material formed into or used as a sheet

Ex. 5. *Read and translate the following sentences. Pay attention to the meaning of the words and word-combination given below:*

I.

mount *v* – монтировать, крепить, собирать
mountable *adj* – монтируемый, встраиваемый
mounted *adj* – смонтированный, установленный, закреплённый
mounter *n* – монтажник, монтажное устройство
mounting *n* – установка, сборка, монтаж, крепление

1. In order to **mount** the telephone jack, remove the cover and expose the inner plate and make screw holes.
2. Panel is a wall **mountable** but keep in mind that it requires external power, meaning it plugs into the wall.
3. Sony products, such as liquid crystal televisions, digital cameras, Walkman, and others keep on evolving because Sony Manufacturing Systems support these products with its latest **mounter** technology.

4. Whether **mounted** in a window or a wall, this type of air conditioner plugs into a standard electrical outlet and doesn't need special wiring.

5. A window-**mounted** air conditioner is the most popular and economical, but a wall-mounted unit requires some renovation work.

6. In order to attach the element to the oven, install the **mounting** screws through the **mounting** brackets to the back of the oven.

II.

structure *n* – строение, структура
structural *adj* – строительный, структурный
structured *adj* – структурный, структурированный
structureless *n* – бесструктурный, аморфный

1. The original two levels of the Tower of Pisa didn't lean, but the **structure** began to lean when construction moved to the third level and beyond in 1178.

2. I did the **structural** engineering calculation of the foundation for the wind turbine and substation.

3. The doctoral program is **structured** so that students can pursue a curriculum matched to their individual interests.

4. It can happen to any fine-grained, **structureless** rock that is gently attacked by groundwater.

Ex. 6. *The table below contains words from your active vocabulary that have been chopped in half. Find the pieces that fit together and write them down:*

super	relev	let	ce	ant
fan	insula	struc	ture	sheet
ing	mason	out	tion	ry

Ex. 7. *Study the patterns showing the ways some adjectives are formed from nouns. Complete the charts, translate formed words:*

Pattern 9

Noun + **-ful** ⟶ Adjective

Example: care – заботиться ⟶ care**ful** – заботливый

Noun	Adjective	Noun	Adjective
success		colour	
power		youth	
use		thought	
harm		truth	
peace		tact	

Pattern 10

Noun + **-less** ⟶ Adjective

Example: hope – надежда ⟶ hope**less** – безнадёжный

Noun	Adjective	Noun	Adjective
colour		meaning	
worth		health	
use		success	
structure		room	
motion		aim	

5.1.2. The text «Types of Walls»

Ex. 1. *Read the international words and give their meanings:*

structure;	block;	artillery;	principal;	terra-cotta;
exterior;	cement;	barrier;	variation;	nominal;
component;	fact;	electrical;	acoustic;	minimal.

Ex. 2. *Get acquainted with some proper and geographical names:*

Europe;	Latin;	Beijing;
Asia;	Rome;	the Great Wall of China;
English;	Italy;	Mongolian plain.

Ex. 3. *Read and translate the text* ***«Types of Walls»****:*

TYPES OF WALLS

A wall is usually a solid structure that defines and sometimes protects an area. Most commonly, a wall delineates a building and supports its superstructure, separates space in buildings into rooms, or protects or delineates a space in the open air. There are three principal types of structural walls: building walls, exterior boundary walls, and retaining walls.

Let's characterize some types of walls.

Building walls have one main purpose: to support roofs and ceilings. Such walls most often have three or more separate components. In today's construction, a building wall usually has the structural elements, insulation, and finish elements or surface. In addition, the wall may house various types of electrical wiring or plumbing. Electrical outlets are usually mounted in walls. Building walls frequently become works of art externally and internally, when mosaic work or when murals are painted on them.

A partition wall is a wall for the purpose of separating rooms, or dividing a room. Partition walls are usually not load-bearing. Partition walls may be con-

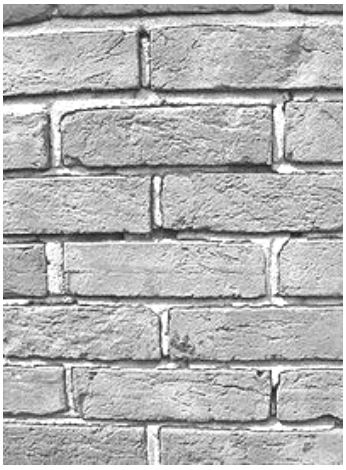
structed with bricks or blocks from clay, terra-cotta or concrete. Glass blocks may also be used. Timber may be used too. This type of partition consists of a wooden framework either supported on the floor below or by side walls. Partition walls constructed from fibre cement sheeting are popular as bases for tiling in kitchens or in wet areas like bathrooms. Reinforced partition walls may also be constructed from concrete, including precast concrete blocks. There are variations of wall partitions which include the level of fire resistance, and their acoustic performance rating.

Boundary walls include privacy walls and town walls. Privacy walls can be called fences. The conventional differentiation is that a fence is of minimal thickness and often is open in nature, while a wall is usually more than a nominal thickness and is completely closed, or opaque. More to the point, if an exterior structure is made of wood or wire, it is generally referred to as a fence while if it is made of masonry, it is considered a wall.

Before the invention of artillery, many of the world's cities and towns, particularly in Europe and Asia, had protective walls (also called town walls or city walls). In fact, the English word "wall" is derived from Latin "vallum", which was a type of fortification wall. Since they are no longer relevant for defense, such cities have grown beyond their walls, and many of the walls, or portions thereof, have been torn down, for example in Rome, Italy and in Beijing. Examples of protective walls on a much larger scale include the Great Wall of China.

Retaining walls are a special type of walls that may be either external to a building or part of a building that serves to provide a barrier to the movement of earth, stone or water. The ground surface or water on one side of a retaining wall will be noticeably higher than on the other side. A dike is one type of retaining wall, as is a levee, a load-bearing foundation wall, and a sea wall.

A brick building wall:



An old Italian boundary wall surrounded by flowers:

Dry-stone retaining wall:

5.1.3. Drilling

Ex. 1. *Find in the text* ***«Types of Walls»*** *English equivalents to Russian ones given below:*

твёрдая структура;	электрические розетки;	традиционное различие;
разграничивать пространство здания на комнаты;	мозаичная работа;	
	не несущий;	номинальная толщина,
	стеклоблок;	защитные стены;
три основных типа;	деревянный каркас;	крепостная стена;
поддерживать крыши и потолки;	сборные бетонные блоки;	создавать барьер;
		поверхность земли;
вмещать;	уровень огнестойкости;	значительно выше.

Ex. 2*. Fill in the table:*

Type of a wall	Characteristics of a wall

Ex. 3. *Complete the sentences using the information from the text:*

1. One of the main purposes of erecting building walls is … .
2. A building wall usually has the following components: … .
3. Partition walls don't usually bear … .
4. A partition wall consists of a … .
5. Partition walls constructed from fibre cement sheeting are usually used in ... .
6. Partition walls can be built from ….
7. Many cities of Europe and Asia have ….
8. The English word "wall" is derived from Latin "vallum", which meant … .
9. The Great Wall of China is an example of … .
10. Retaining walls are a part of a building that … .

Ex. 4. *Answer the questions to the text* ***«Types of Walls»****:*

1. What is a wall?
2. What principal types of structural walls do you know?
3. What is a building wall?
4. When do building walls become works of art?
5. When is a partition wall used?
6. What materials can be utilized for partition walls?
7. What is the difference between a fence and a wall?
8. Why do people build retaining walls?

Ex. 5. *Speak about the following:*

1. Building walls.

Key words: to support, three separate components, to house, electrical outlets, plumbing, works of art, mosaic works, murals.

2. Boundary walls.

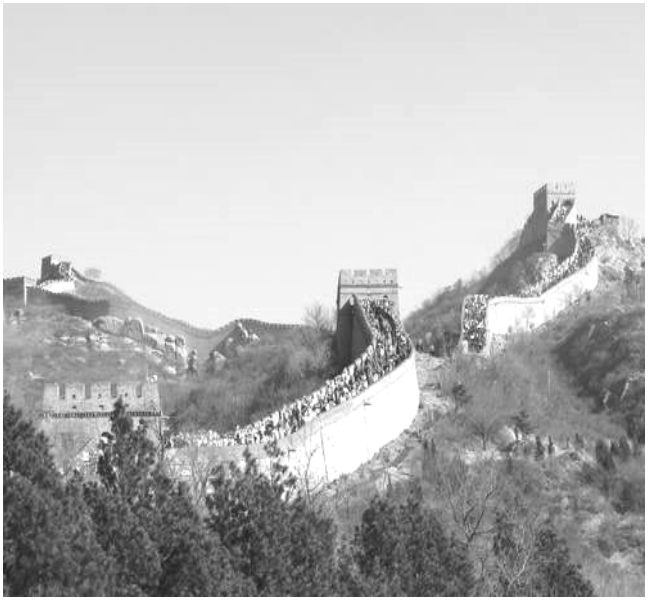
Key words: privacy walls and town walls, fence, minimal thickness, to be open in nature, nominal thickness, wood or wire, masonry.

3. Retaining walls.

Key words: external to a building, part of a building, a barrier to the movement, the ground surface, noticeably higher, side, a dike, a sea wall.

Ex. 6. *Retell the text* ***«Types of Walls»*** *in English. You may use Ex. 5 as a plan.*

Ex. 7. *Read the text, give the title to it and tell the main idea of it in a few sentences:*



Stretching for thousands of miles, the Great Wall of China protec-ted ancient China from invaders. No one is sure exactly how long the Great Wall of China is. Many say that the Great Wall extends some 3,700 miles (6,000 kilometers). But the Great Wall is not actually a single wall but a series of disconnected walls.

Snaking along the hills in the southern part of the Mongolian plain, the Great Wall (or Walls) were built over centuries, beginning as early as 500 BC. During the Qin Dynasty (221-206 BC), many walls were joined and re-enforced for greater strength. In places, the massive walls are as tall as 29.5 feet (9 meters). Some additions and modifications were made to these simple walls over the next millennium but the major construction of the "modern" walls began in the Ming Dynasty (1388-1644 CE).

The Ming fortifications were established in new areas from the Qin walls. They were up to 25 feet (7.6 meters) high, 15 to 30 feet (4.6 to 9.1 meters) wide at the base, and from 9 to 12 feet (2.7 to 3.7 meters) wide at the top (wide enough for marching troops or wagons). At regular intervals, guard stations and watch towers were established. Since the Great Wall was discontinuous, Mongol invaders had no trouble breaching the wall by going around it, so the wall proved unsuccessful and was eventually abandoned.

The Great Wall of China is a UNESCO World Heritage site. In 2007, the Great Wall of China was also named one of the New 7 Wonders of the World. Today, a portion of the Great Wall of China about 50 miles (80 km) from Beijing receives thousands of tourists each day.

Ex. 8. *Read and learn the dialogue by heart:*

Architect: Have you already decided what type of wall décor to choose for your home?

Customer: Yes, I would like to use wall panels but I have some doubts.

Architect: It's a good choice. They are usually used for visual appeal. They are easy to install and to clean. Little or no preparation of the walls is required.

Customer: Do wall panels have any disadvantages?

Architect: The only real disadvantage of wall panelling is the fact that there is a slightly limited choice of colours compared to some other types of wall covering.

Customer: I see that wall panels are convenient and practical whether used for functional purposes or simply as an aesthetic element. But what can you say about wallpaper?

Architect: They are cheap. There is a large range of colours and finishes. But some kinds of wallpaper are not waterproof that's why they are not really suitable for bathrooms.

Customer: Paint is also cheap and there is a wide range of colours.

Architect: But paint is not waterproof, not suitable for shower areas and can blister under moist conditions.

Customer: So, I need some time to think this information over.

Ex. 9. *Make up the dialogues or monologues on the following items:*

1. Interior walls.
2. External walls.

Ex. 10. *Read more information about walls and discuss it with your groupmates. See the Texts for Supplementary Reading (Texts 13, 14).*

Ex. 11. *Make up a project. Choose any type of wall you like and prepare the presentation about it.*

5.2. Grammar: Participle II (See Section Grammar)

Ex. 1. *Translate the sentences into Russian paying attention to the functions of Participle II:*

1. The buildings made of stone or brick are durable, fire-proof and have poor heat conductivity.

2. In China, most cottages and smaller houses also had earthen floors, made of rammed earth and sealed with raw linseed.

3. Any specialist connected to the building industry knows of the shift to environmentally friendly construction practices.

4. Modern refrigerators require just 10 per cent of the energy needed to run those of 30 years ago.

5. Curved lines are sometimes described as smooth, graceful and gentle and create a relaxing feeling.

6. Everything selected for a landscape must complement the central scheme and must serve some functional purpose.

7. Other research demonstrates that planted surroundings can significantly improve office efficiency.

8. Artificial plants commonly used in decorating obviously do not provide the same human benefits.

9. The accelerated development of innovative forms, unusual material applications, new technical means and processes and globalization in the second half of 20th century have influenced manufactured products.

10. Strength of materials studies the mechanical properties of materials used in the construction industry.

Ex. 2. *Translate what is given in brackets using Participle II and translate the sentences into Russian:*

1. Whether you choose original works of art from as yet (**неизвестные**) artists or prints or posters from well-known masters, the art you choose should be a reflection of your own style and taste.

2. Many homeowners like to spruce up their walls with original works (**выбранными**) from local galleries fine art dealers.

3. The new housing project (**построенный**) in this town will be in the form of a huge circle.

4. Having known the title of my report on strength of materials I decided to go to a (**опытному**) builder and discuss it with him.

5. Even the most discerning eye will find it almost impossible to discover the difference between the (**восстановленным**) image and the original oil on canvas.

6. A defensive wall is a fortification (**использованное**) to protect a city or settlement from potential invaders.

7. The gates (**оснащённые**) with two wall towers on each side often reach up to considerable heights.

8. City gates were traditionally built to provide a point of controlled access to and departure from a (**окруженного стеной**) city for people, vehicles, goods and animals.

9. With (**увеличенным**) levels of traffic, city gates have come under threat in the past for impeding the flow of traffic, such as Temple Bar in London which was demolished in the 18th century.

10. A masonry veneer wall consists of masonry units, usually clay-based bricks, (**установленных**) on one or both sides of a structurally independent wall usually constructed of wood or masonry.

5.3. Tests

Ex. 1. *Choose the right variant:*

1. Vinyl siding is the most fragile of all siding materials and besides melting when **exposed / be exposed** to extreme heat, it will become brittle in cold weather.
2. **Insulated / insulating** vinyl siding is an alternative to costly siding materials.
3. **Made / maked** in concrete, brick and wood a load bearing wall bears a load by transferring its weight and loads to the foundation structure.
4. Mortar mixes are classified **based / base** on compressive strength and their bonding properties and flexibility.
5. A type N mortar is described as a general purpose mortar mix **used / having used** in exterior and interior load-bearing installations.
6. Mortar mix type N is also **the preferred / the preferring** mix for soft stone masonry.
7. Installing a brick veneer onto your building's exterior requires special skills and it is usually performed by **experienced / experience** brick mason.
8. **Insulated / been insulated** concrete masonry units are made of identical materials as conventional concrete blocks.
9. The company offers a complete turn-key service in which the bridge design process will meet **the expected / the expectted** design criteria.
10. York Bridge Concepts offers extremely capable craftsmen, **equipped / equipping** with all the tools and equipment **needed / is needed** to install all bridge components.

Ex. 2. *Choose the right variant:*

1. These are basic tools you will need for putting up … on your farm.

a) pile b) wall c) fencing

2. More than 40 artists created the statues, sculptures, and ….

a) fibre b) murals c) insulation

3. In its glory Babylon was surrounded by thick … walls ornamented with images of the ancient god of Marduk.

a) masonry b) sea wall c) fence

UNIT 6. THE INTERIOR OF THE HOME: DOORS

Лексика: текст **«Doors»** и упражнения.
Грамматика: условные предложения.
Лексико-грамматический тест.

6.1. Speech Pattern

6.1.1. Active Vocabulary

Ex. 1. *Read and learn the words from the active vocabulary:*

adjacent [ə'ʤeɪs(ə)nt] – смежный
afterlife – загробная жизнь
architrave ['ɑːkɪtreɪv] – архитрав (элемент ордера)
appeal – привлекательность
to comprise – включать в себя, содержать
chest – грудная клетка
door frame – дверная коробка
doorstop – останов двери, ограничитель открывания двери, доводчик
Dutch door – голландская дверь (с полотном, разделённым по горизонтали на две половины)
decorative molding – декоративное лепное украшение
false door – глухая дверь
fin – ребро
funerary ['fjuːn(ə)rərɪ] – похоронный
hinge – дверная петля
hollow-core door – пустотелая щитовая дверь
interact – взаимодействовать
intruder – взломыватель, злоумышленник, нарушитель
jamb [ʤæm] – стойка дверной коробки
knee [niː] – колено
lintel – перемычка двери
leaf – створка
lever – рукоятка
louvre door ['luːvə] – дверь с жалюзи
to pivot – поворачивать, вертеть
post – стойка
passage – проход, прохождение
to preserve – сохранить
rotation – вращение
single door – однопольная дверь
shutter – ставень
sill – нижняя обвязка дверной коробки, порог
slat – створка жалюзи, планка
to swing – поворачиваться, качаться
wardrobe – платяной шкаф, гардероб

Ex. 2. *Translate the following phrases into Russian and use them in your own sentences:*

architectural appeal;
to swing from right to left;
to swing shut;
hollow-core construction;
knee by knee;
chest pain;
the afterlife of the pharaoh;
funerary architecture;
movable wooden fins;
no passage;
to preserve for the future;
window shutters;
slats of glass;
facade architecture;

facade painting unit;
to pivot on someone's heel(s);
axial rotation;
left rotation;
head jamb;
door leaf;
door post;
to interact with each other at a certain temperature.

Ex. 3. *Make up the words from the given letters. Consult the active vocabulary:*

1.v, l, e, e, r;
2. a, l, e, f;
3. a, m, j, b;
4. a, s, l , t;
5. t, l, i, n, e, l;
6. o, d, o, s, t, p, r, o;
7. g, h, i, n, e;
8. a, a, p, e, p, l.

Ex. 4. *Guess the cross-word:*

По вертикали:

1. Двустворчатый или одностворчатый деревянный затвор у окон.

2. Часть жалюзи.

3. Механизм для крепления дверей к дверной коробке.

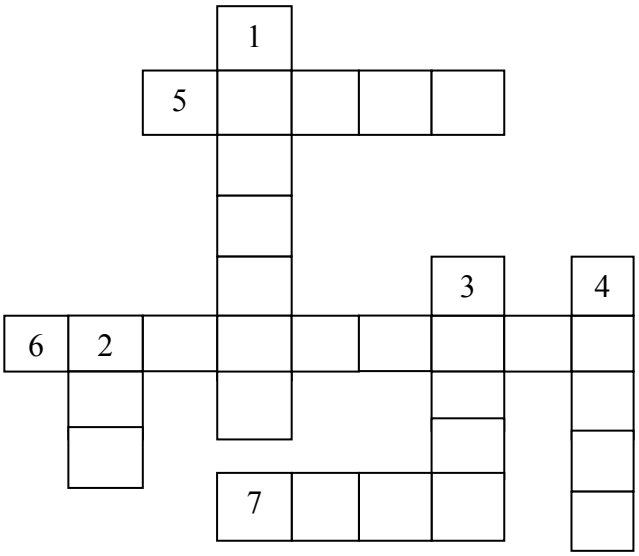
4. Часть какого-либо изделия, служащая для его удержания руками или переноски при помощи рук.

По горизонтали:

5. Часть туловища, образуемая грудиной, рёбрами, позвоночником и мышцами.

6. Жизнь после смерти.

7. Часть туловища, соединяющая бедро с голенью.



Ex. 5. *Make the following sentences complete by translating the words and phrases in brackets into English:*

1. The Everingham (**вращающийся**) house is built largely of glass and steel and powered by an electric motor "not much bigger than a washing machine motor".

2. Louvers are ideal for partition doors and (**оконные ставни**), where you want air to flow through the opening but want to avoid being able to see what is behind the door or window.

3. Almost any room in your home, decorated in any style, can benefit and be enhanced by the addition of (**декоративное лепное украшение**).

4. If you have room in your (**гардеробная**), a simple option is to use a shoe rack that hangs from the clothes rail.

5. The channeling of so much of the country's resources into building and equipping (**надгробные памятники**) may seem unproductive by modern standards, but pyramid building seems to have been essential for the growth of pharaonic civilization.

6. To trim out the (**стойка дверной коробки**) measure from the top of the door opening down to the bottom of the door opening, and add any additional length below the opening to suit your taste.

7. Contemporary paintings, sculpture, ceramics, and installations (**включать в себя**) the majority of the art on view in the museum's gallery.

8. If the hole was caused by a doorknob, don't forget to install a (**дверной останов**) to prevent it from happening again.

9. Its exterior walls are decorated with stucco reliefs, and the (**дверные перемычки**) are carved with glyphs and the images of captives.

10. Electronic keycard locks is nothing more than a simple (**дверная перемычка**) that turns the circuit allowing room access off.

Ex. 6. *Arrange these words and phrases in the right order. Translate rewritten sentences into Russian:*

1. art, may, many, funerary, serve, functions, cultural.
2. are known, saloon doors, to chest-level, also, cafe doors, that only extend, as, from knee-level.
3. of rotation, a fixed axis, relatively, two objects, a hinge, rotate, each other, about, connected by.
4. of a Dutch door, was keep, while, light and air in, children inside, admitting, the initial purpose.
5. one of, monuments, the Boyana Church, the well-preserved, of Eastern European, represents, mediaeval art.
6. a solid and stable, consisting of, a frame, window covering, is, of vertical stiles, and, a window shutter, horizontal rails.
7. and, sills, entry, the high, exit, make, harder, can.
8. is, that, an architrave, rests on, the beam, of the columns, the capitals.
9. be done, the doorstop, damage, without, might, to the wall.
10. are, to separate, doors, generally, interior, used, spaces.

Ex. 7. *Study the patterns showing the ways some nouns are formed from adjectives and the ways some adjectives are formed from nouns. Complete the charts, translate formed words:*

Pattern 11

Adjective + **-ness** ⟶ Noun

Example: weak – слабый ⟶ weak**ness** – слабость

Adjective	Noun	Adjective	Noun
aware		kind	
useful		bright	
effective		thick	
harmful		happy	
damp		serious	

Pattern 12

Noun + **-ous** ⟶ Adjective

Example: danger – опасность ⟶ danger**ous** – опасный

Noun	Adjective	Noun	Adjective
hazard		continue	
humour		very	
mystery		mountain	
caprice		glory	
advantage		disaster	

6.1.2. The text «Doors»

Ex. 1. *Read the international words and give their Russian meanings:*

facade; saloon; specific; modernist; horizontal; ventilation; plastic; architectural; transmission; combination.

Ex. 2. *Before you read text* ***«Doors»****, discuss these questions with your groupmates:*

1. What is a door?
2. Why did ancient people use doors ?
3. What materials did people use to make a door in ancient times?
4. What materials are used now?

Ex. 3. *Read and translate the text «Doors»:*

DOORS

A door is a movable structure used to close off an entrance, typically consisting of a panel that swings on hinges or that slides or rotates inside of a space. When open, they admit ventilation and light. Doors are significant in preventing the spread of fire and also act as a barrier to noise.

Many kinds of doors have specific names, depending on their purpose. First of all, doors come in two major categories: exterior and interior. **Exterior doors** are usually solid wood or insulated metal doors, designed to provide privacy, some protection from the weather and intruders, and can add architectural appeal. **Interior doors** in modern construction are often hollow-core wood doors and designed to provide privacy and help to reduce sound transmission within the home.

The most common variety of door is **the single door** which consists of a single rigid panel that fills the doorway. Many variations on this basic design are possible, such as **the double doors** and **French doors** that have two adjacent independent panels hinged on each side of the doorway.

A **half door** or **Dutch door** is divided in half horizontally. Traditionally the top half can be opened to allow a horse or other animal to be fed, while the bottom half remained closed to keep the animal inside. This style of door has been adapted for homes.

Saloon doors are a pair of lightweight swing doors often found in public bars, and especially associated with the American west. Saloon doors are also known as cafe doors that only extend from knee-level to chest-level.

A **false door** is a wall decoration that looks like a door. In ancient Egyptian architecture, this was a common element in a tomb, the false door represented a gate to the afterlife. They can also be found in the funerary architecture of the desert tribes.

A **louvre door** has fixed or movable wooden fins (often called slats or louvers) which permit open ventilation while preserving privacy and preventing the passage of light to the interior. Being relatively weak structures, they are most commonly used for wardrobes and drying rooms, where security is of less importance than good ventilation, although a very similar structure is commonly used to form window shutters. More modern louver windows comprise slats of glass, opened and closed with a metal lever, or they may be shutters of wood, plastic or other material. Some modern louver systems serve to improve indoor day light.

Louvers are rarely seen as primary design elements in the modern architecture, but rather simply a technical device. However, there are examples of architects who use them as part of the overall aesthetic effect of their buildings. The most well-known example is Finnish modernist architect Alvar Aalto who

would create aesthetic effects in the facades of his buildings through the combination of different types and sizes of louvers, some fixed some moveable, and made mostly from wood.

A Dutch door with the top half open:

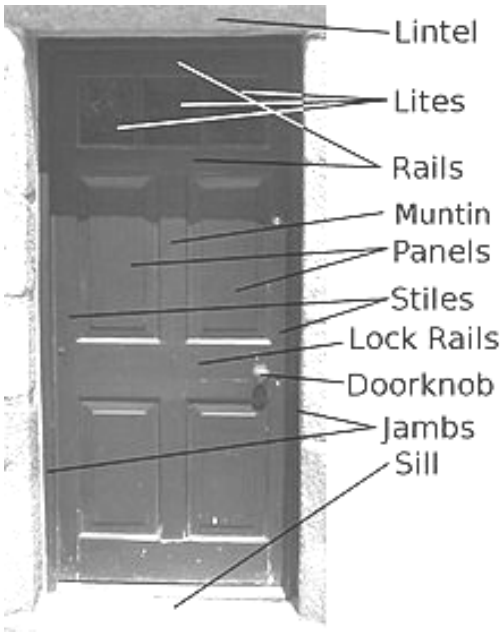
A louvre door:

Most doors are hinged along one side to allow the door to pivot away from the doorway in one direction but not in the other. The axis of rotation is usually vertical. In some cases, such as hinged garage doors, the axis may be horizontal, above the door opening.

Doorway components

The doorway consists of two vertical jambs on either side, a lintel or head jamb at the top, and perhaps a threshold at the bottom. When a door has more than one movable section, one of the sections may be called a leaf.

A diagram illustrating the components of a panel door.



Lintel − a horizontal beam above a door that supports the wall above it (also known as a header).

Jambs − the vertical posts that form the sides of a door frame, where the hinges are mounted, and with which the bolt interacts.

Sill − a horizontal beam below the door that supports the frame.

Doorstop − a thin slat built inside the frame to prevent a door from swinging through when closed, which might break the hinges.

Architrave − the decorative mol-ding that outlines a door frame (called an Archivolt if the door is arched).

6.1.3. Drilling

Ex. 1. *Find in the text* ***«Doors»*** *English equivalents to Russian ones given below:*

подвижная конструкция;
распространение огня;
в зависимости от назначения;
дверь из цельной древесины;
архитектурная привлекательность;
многопустотные деревянные двери;
снизить звукопроницаемость;
однопольная дверь;
жёсткое полотно;
две смежные панели;
легковесные поворачивающиеся двери;
врата в загробную жизнь;
подвижные деревянные пластинки;
сушильная камера;
деревянные ставни;
простое техническое устройство;
поворачиваться в дверном проёме в одном направлении.

Ex. 2. *Complete the sentences using the following words:*

Architecture, vertical, hollow-core wood doors, architect, weak structure, independent, American west, to improve, movable, consists of.

1. A door is a … structure consisting of a panel that swings on hinges or that slides or rotates inside of a space.
2. Interior doors are often … and help to reduce sound transmission within the home.
3. French doors have two adjacent … panels hinged on each side of the doorway.
4. Saloon doors are especially associated with the … .
5. In ancient Egyptian … the false door represents a gate to the afterlife.
6. A louvre door is relatively … and most commonly used for wardrobes and drying rooms.
7. Some modern louver systems serve … indoor day light.
8. Finnish modernist … Alvar Aalto created aesthetic effects in the facades of his buildings through the combination of different types and sizes of louvers.
9. The axis of rotation is usually… .
10. The doorway … two vertical jambs on either side, a lintel at the top.

Ex. 3. *Agree or disagree with the statements according to the information from the text* ***«Doors»****, using the cliches:*

That's wrong. – Это неверно.
That's wright. – Верно.
According to the text … – Согласно тексту …

1. A door is used to admit a person into his/her dwelling.
2. Only interior doors reduce sound penetration into the house.
3. A saloon door is a door which consists of a single rigid panel that fills the doorway.
4. A false door is utilized in modern construction in large scales.
5. A door is a decorative element of any building.
6. A louvre door is divided in half horizontally.

Ex. 4. *Answer the questions to the text* ***«Doors»****:*

1. Why are the doors used?
2. What does the type of the door depend on?
3. What types of the doors do you know?
4. What is the main difference between a single door and a French door?
5. What is the peculiarity of a Dutch door?
6. Where can we find a false door?
7. When are louvre doors used?
8. What are the components of a panel door?

Ex. 5. *Choose any kind of the door you like and give the general description of it.*

Ex. 6. *Look through the text (5 min.) and give a summary of it in Russian. Entitle the text:*

Archaeologists have unearthed a 3,500-year-old door to the afterlife from the tomb of a high-ranking Egyptian official near Karnak temple in Luxor.

These recessed niches found in nearly all ancient Egyptian tombs were meant to take the spirits of the dead to and from the afterworld. The nearly six-foot- tall (1.75 meters) slab of pink granite was covered with religious texts.

The door came from the tomb of User, the chief minister of Queen Hatshepsut, a powerful, long ruling 15th century B.C. queen from the New Kingdom with a famous mortuary temple near Luxor in southern Egypt.

User held the position of vizier for 20 years, also acquiring the titles of prince and mayor of the city, according to the inscriptions. He may have inherited his position from his father.

Viziers in ancient Egypt were powerful officials tasked with the day-to-day running of the kingdom's complex bureaucracy.

As a testament to his importance, User had his own tomb on the west bank of the Nile in Luxor, where royal kings and queens were also buried. A chapel dedicated to him has also been discovered further south in the hills near Aswan.

The stone itself was long way from its tomb and had apparently been removed from the grave and then incorporated into the wall of a Roman-era building, more than a thousand years later.

False doors were placed in the west walls of tombs and faced offering tables where food and drink were left for the spirit of the deceased.

Ex. 7. *Read more information about doors and discuss it with your groupmates. See the Texts for Supplementary Reading (text 17). Speak about the differences between construction nowadays and in ancient times as well.*

Ex. 8. *Make up a project. Prepare the presentation on the following*:

1. Different types of doors.
2. History of doors.
3. The process of door production.

6.2. Grammar: Conditional Sentences (See Section Grammar)

Ex. 1. *Read and translate the following types of conditional sentences.*

I. Real conditionals

Example: If the weather **is** fine, we **shall go** to the cinema. – Если погода **будет** хорошей, мы **пойдем** в кино.

1. If doors open, they will admit ventilation and light.
2. If the foundation of a building yields, then little will be done to improve the situation.
3. If a column acting as a load bearing member in a building is found to be inadequate, it will be made safe by providing reinforcements or by introducing intermediate columns.
4. If you assemble a design team including surveyors, civil engineers, electrical engineers, structural engineers, fire protection engineers, planning and architectural consultants, you will get a successful execution of a project.
5. If a designer does not have the knowledge and skills attained through structured education, it will not allow him to be better prepared in a competitive job market.

II. Unreal conditionals referring to the present and future

Example: If the weather **was** fine, we **should go** to the cinema. – Если **бы** погода **была** хорошей, мы **бы пошли** в кино.

1. If the nature of soil and the loading conditions were uniform over the entire site of the building, the danger of unequal settlement would be minimized.
2. If a design called for the use of a crane, it would be strongly desirable that the loads should be of the same weight.
3. If porous ground didn't tend to suck the moisture out of the concrete, the sandstone and sand would not cause difficulties with both types of piling.

4. If the slabs were hung up with wire hangers, it would allow a space of several inches between the soffit of the concrete floor and the ceiling.

5. If skyscrapers were built in a street of ordinary width, where the people who work in them come pouring out at the end of the day, the street would be overcrowded.

III. Unreal conditionals referring to the past

Example: If the weather **had been** fine yesterday, we **should have go** to the cinema. – Если **бы** погода **была** хорошей вчера, мы **бы пошли** в кино.

1. If the foundation had not been taken deep inside the ground, water would not have scoured the soil above the foundation.

2. If the sufficient data had been chosen, a more definite solution would have been received.

3. If the management of the factory had used more effective methods a year ago, the production of cement would have increased.

4. If the builders had put the waterproof covering on the pitched roof, they could have avoided its leaking.

5. If they had used the right water-cement ratio, they would have produced concrete of high strength and durability.

6.3. Tests

Ex. 1. *Read the sentences in real conditions and transform them into the sentences in unreal conditions referring to the present and future:*

1. If you choose the right feng shui colour for the area, it will change the relationship between the two directly aligned doors.

2. If there is enough space in between the directly aligned doors, you may create a conversation area in the direct pathway.

3. If you use properly feng shui colours, they will bring the desired feng shui energy into your home.

4. If you have a barn, a well-built set of Dutch-style barn doors will provide unique functionality.

5. If you hinge barn doors properly, they will be durable enough to stand for years.

6. If a bedroom, for example, is located directly over a family room, the sound from a television will travel to the second floor.

7. If you are upstairs and want a drink of water, you will need to go downstairs to reach the kitchen.

8. If a door is not latching properly, the strike plate will need to be realigned.

9. If you change the flooring, you will need to trim the bottom of the door.

10. If you need to replace the brackets, you will fill the old screw holes in the door frame with wood putty.

Ex. 2. *Choose the right variant:*

1. Before fitting the … on the doors, mark the hinge position.

a) hinges b) door frame c) lintel

2. A … keeps a door open or stops it from banging against a wall.

a) muntin b) fin c) doorstop

3. … were a form of stele which developed by the 3rd Dynasty from earlier tomb slabs.

a) Dutch doors b) false doors c) a louvre door

UNIT 7. THE INTERIOR OF THE HOME: WINDOWS

Лексика: тексты **«Windows»**, **«The Structure of the Plastic Window»** и упражнения.
Грамматика: повторение.
Лексико-грамматический тест.

7.1. Speech Pattern

7.1.1. Active Vocabulary

Ex. 1. *Read and learn the words from the active vocabulary:*

bay window – окно с выступом
casement window ['keɪsmənt] – створчатое окно
cost effective – окупающийся
double glazing – двойное остекление
double-hung sash window – подъёмное окно с двумя подвижными переплётами
exterior windowsill – водоотлив
float glass – полированное листовое стекло
glass pane / window pane – оконное стекло
glass sandwich – триплекс
to glaze – застеклять, стеклить
gypsum plasterboard ['ʤɪpsəm] – гипсо-волокнистый лист (ГВЛ)
to seal – герметично закрыть
inclement [ɪn'klemənt] – суровый
insulated glazing unit – стеклопакет
leaded glass – оконное стекло в свинцовой оправе
leaf – створка окна
molding fillet – штапик, горбылёк
multiple glass pane – стеклопакет

muntin [ˈmʌntɪn] (sash bar) – горбылёк оконного переплета
picture window – венецианское окно
pivoted window ['pɪvətɪd] – откидное окно
to project – выдаваться, выступать
to protrude – выдаваться
to sand – чистить наждачной бумагой
spacer – распорка
turn window – поворотное окно
transparent – прозрачный
tilt and turn window – поворотно-откидное окно
window rubber / seal – резиновый уплотнитель окна, изоляция
window jamb / jamb wall – откос оконного проёма, косяк оконной коробки
window opening – оконный проём
window mountings – фурнитура

Ex. 2. *The table below contains word combinations from your active vocabulary that have been divided into parts. Find the pieces of word combinations that fit together and write them down:*

float	glass	and	window	glazing
pane	multiple	double	picture	glass
glass	tilt	plasterboard	pane	turn window
gypsum	mountings	window		

Ex. 3. *Translate the sentences from English into Russian paying attention to the active vocabulary:*

1. Historically, **spacers** were made primarily of metal, which manufacturers thought provided more durability.
2. Architectural glass is most typically used as **transparent glazing** material in the building envelope, including windows in the external walls.
3. The **float glass** process was invented in the 1950s by Sir Alastair Pilkington, in which molten glass is poured onto one end of a molten tin bath.
4. A window glazed with small panes of glass separated by wooden or lead «sash bars», or «**muntins**» is often dictated by the architectural style at use.
5. We manufacture and install the highest quality aluminium and PVC **tilt and turn windows**.
6. Typically **bay windows** consist of an assembly of three windows; the two side windows, usually **casement or double-hung** to allow ventilation, are set at an angle (usually 30, 45, 60 or 90 degrees) to the center window, which is typically fixed and does not open.
7. The outer two window panes on each of the upper picture windows **pivot** to open like a door.
8. A variety of floor materials can **be sanded**, including timber, cork, particleboard, and sometimes parquet.
9. This type of arch, when employed as a **window opening**, represents itself a very wide space, decoratively filled with many narrow vertical mullions and horizontal transoms.

10. **Sandwich glass** was first made in the 1820's by the Boston and Sandwich Glass Company at Sandwich, Mass.

Ex. 4. *Make the following sentences complete by translating the words and phrases in brackets into English:*

1. A spacer is the piece that separates the two (**оконные стёкла**) in an insulating glass system, and seals the gas space between them.
2. While most bay windows (**выдаваться**) from a building, some bay windows are level with the exterior and are built into the interior of a room.
3. Molding fillet helps to fasten window or (**дверное стекло**) more firmly in a frame.
4. If (**створка окна**) is firmly fastened, it will never tinkle, and draughts will never appear in your house.
5. An (**проём**) constructed in a wall or a roof and functioning to admit light or air to an enclosure, usually framed is known as windows.
6. Some buildings may have a sill (**выступающий**) outside like a platform. That is called the exterior windowsill.
7. (**Венецианские окна**) are a great way to feature a large fixed window opening or they can be combined with sliding windows or casement windows for a ventilated option.
8. (**Гипсо-волокнистый лист**) is designed for finishing and arrangement of non load-bearing walls and partitions in buildings with dry and normal humidity regime, as well as for production of decorative and sound-absorbing items.
9. When packing for a trip to the Caribbean take a lot of tops and shorts, but don't forget a raincoat in case of (**ненастья, непогоды**).
10. Plastic window is a (**окупаемая**) alternative to expensive wood windows and are available in many styles and sizes.

Ex. 5. *Arrange these parts of the sentences in the right order. Translate rewritten sentences into Russian:*

1. and for ventilation purpose, windows and doors, in and out, installed to move, every home has.
2. the window frame could, with the pane made, be wood or metal, materials for, of thick glass.
3. heat, were sealed, that provided protection, with primitive wooden shutters, against rain, small window openings, cold and insects.
4. and when pointed downward, louvered wooden shutters, and light control, they could, provided insulation, repel rainwater.
5. a spacer is, that separates the two panes, window manufacturing, the component used in, of glass in an insulating, glass system.

6. that the frames require, of plastic windows is, very little maintenance, one of the benefits.

7. a cost effective alternative, to expensive wood windows, plastic windows are.

8. is broken, if glass sandwich, glass fragments don't smash, but remain on the flexible layer, in all directions.

9. flooded with mastic, insulated glazing unit is, dust and moisture, to prevent penetration of.

10. in the windows of ordinary homes, glass was used, only in the early, in England, 17th century.

7.1.2. The text «Windows»

Ex. 1. *Read and translate the text* ***«Windows»****:*

WINDOWS

A window is a transparent opening in a wall or door that allows the passage of light and, if not closed or sealed, air and sound. Windows are usually glazed or covered in some other transparent material like float glass. Windows are held in place by frames, which prevent them from collapsing in. Many glazed windows may be opened, to allow ventilation, or closed, to exclude inclement weather.

The earliest windows were just holes in a wall. Later windows were covered with animal hide, cloth, or wood. Shutters that could be opened and closed came next. Over time, windows were built that both protected the inhabitants from the elements and transmitted light. The Romans were the first known to use glass for windows. In Alexandria in 100 CE, cast glass windows, although it was with poor optical properties, began to appear. Mullion windows were the windows among European well-to-do, whereas paper windows were economical and widely used in ancient China, Korea and Japan. In England glass was used in the windows of ordinary homes only in the early 17th century. Modern-style floor-to-ceiling windows became possible only after the industrial glass making process was perfected.

Now there are many types of windows used in modern construction, for example a casement window, a double-hung sash window, a hopper window, a transom window, a bay window, a fixed window, a plastic window, etc.

Plastic windows are a cost effective alternative to expensive wood windows and are available in many styles and sizes. One of the benefits of plastic

windows is that the frames require very little maintenance, and unlike traditional wood frames, they never need to be sanded, or painted. In fact, most plastic windows never need more maintenance than an occasional wipe down with some soapy water and a sponge. As vinyl or plastic windows become more and more popular, however, the demand for a greater range of colors has increased. This means that nowadays plastic window colors have expanded beyond white and other neutrals to include colors like brick red, black, hunter green, desert sand, architectural bronze, and even woodgrain.

Thanks to windows, our houses are filled with air and light, but in dark and stormy weather, we can feel the comfort and safety. This is why we consider windows a valuable and indispensable part of the house, which allows to enjoy full enchantment of modern life.

7.1.3. Drilling

Ex. 1. *Find in the text «Windows» English equivalents to Russian ones given below:*

позволяет проходить свету;
плотно закрытый;
быть покрытым прозрачным материалом;
ненастная погода;
шкуры животных;
со временем;
многостворчатое окно со стойками;
промышленный процесс производства стекла;
окно на всю высоту помещения;
окно с нижней фрамугой;
окно с верхней фрамугой;
быть доступным любого вида и размера;
преимущества пластиковых окон;
быть ошкуренным;
выйти за пределы;
обязательная часть;
насладиться всеми радостями современной жизни.

Ex. 2. *Answer the questions to the text «**Windows**»:*

1. What is a window?
2. What material is used to glaze a window?
3. What are the reasons to make windows?
4. How did the first windows look like?
5. What materials did people use to cover their windows?
6. Who was the first to use glass for windows?
7. What windows were used in European and Eastern countries?
8. When did people begin to use window in large scale?
9. What is the main advantage in using plastic windows?
10. What colors can plastic windows be of?

Ex. 3. *Agree or disagree with the statements according to the information from the text* ***«Windows»****, using the cliches:*

That's wrong. – Это неверно.
That's wright. – Верно.
According to the text … – Согласно тексту …

1. Windows are used only to allow fresh air into houses.
2. People used animal hides, cloth, or wood to cover windows.
3. For the first time glass for windows was used by Greeks.
4. In ancient China, Korea and Japan people could not afford mullion windows.
5. After the Industrial Revolution different types of windows became affordable.
6. There is no a cost effective alternative to expensive wood windows.
7. Plastic windows have some advantages.
8. Popularity of plastic windows has expanded their range of colors.
9. Modern windows as well as the earliest windows make our houses filled with air and light.
10. Windows make our life more comfortable and safe.

Ex. 4. *Read the text about the structure of the plastic window. Using information from the text, look at the picture and match Russian definitions of the window parts with English ones.*

THE STRUCTURE OF THE PLASTIC WINDOW

Let's study the main parts of any plastic window.

The main part of such window is **a frame**. The frame is a plastic casing assembled from multichamber plastic profile and fixed in the **window opening**. The whole weight of the **leaves** and **multiple glass panes** presses on the frame and requires it to be rigid. Located inside of plastic profile, closed reinforcing profile provides necessary rigidity.

A leaf is an opening part of the window made of polyvinylchloride profile. There are different types of modern windows: a turn window, a pivoted window, a tilt and turn window.

An impost is a plastic reinforced profile. It is used for connection of two leaves and divides the window into parts.

Window mountings is represented by small components. They are hinge joints, locks, levers and others modern invisible mechanisms.

A glass sandwich is made as an automobile window. A layer of resin is inserted between two sheets of glasses. If glass sandwich is broken, glass fragments don't smash in all directions but remain on the flexible layer. It provides a high safety of utilization. Such glass is fireproof, it protects from solar and ultraviolet radiation.

An insulated glazing unit is a structure manufactured of two or three glass panes and joined in leak-proof construction. There is a perforate thin border made of aluminium and filled with a molecular sieve between glass panes. The molecular sieve must absorb moisture protecting glasses from sweating.

An insulated glazing unit is filled with drained air or argon to improve heat-resisting window properties. Insulated glazing unit is flooded with mastic to prevent penetration of dust and moisture.

Insulated glazing units differ by thickness; it can vary from 24 mm to 42 mm. The thicker the insulated glazing unit, the better it will perform its main functions: heat insulating and acoustic insulating properties.

The life of an insulated glazing unit varies depending on the quality of materials used, size of gap between inner and outer pane, temperature differences, workmanship and location of installation both in terms of facing direction and geographic location. Insulated glazing units typically last from 10 to 25 years, with windows facing south or the north lasting less than 12 years.

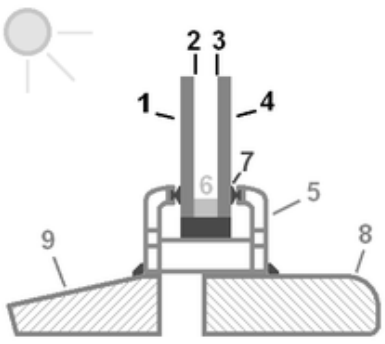
Window rubbers serve for tight joint of all units of the glass pane. They are located between leaves and a frame, between an insulated glazing unit and a molding fillet.

A windowsill should be convenient width, suitable colour and material to chosen style of interior decoration. An exterior windowsill is located outside of the window and make water roll down.

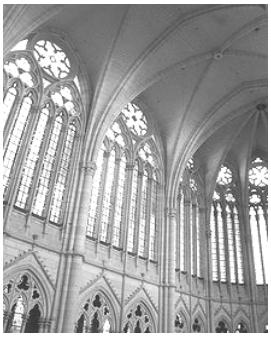
A window jamb is a plastic panel covering walls on the top or on the sides. They can be made from gypsum plasterboard and then coated with plaster and painted.

Ex. 5. *Look at the diagram of a fixed insulated glazing unit and match definitions of the main window parts with indicated numbers:*

Ex. 6. *Match the definitions of the windows with their picture:*



1. … a) an exterior pane
2. … b) the inside surface of the exterior pane
3. … c) the inside surface of the interior pane
4. … d) an interior pane
5. … e) a frame
6. … f) a spacer
7. … g) seals
8. … h) the internal reveal
9. … i) an exterior windowsill

1 
2 
3 
4 
5 

1. Bay window at Augustinergasse in Zürich
2. Casement window
3. Skylight. A roof window at the Musée du Louvre (Paris)
4. The clerestory window of Amiens Cathedral
5. A stained glass window depicting Biblical scenes at a historic church in Scotland

a) A flat or slope window used for daylighting, built into a roof structure that is out of reach;

b) This type of a window is a window space projecting outward from the main walls of a building and forming a bay in a room, either square or polygonal in plan. While most bay windows protrude from a building, some bay windows are level with the exterior and are built into the interior of a room. The angles most commonly used on the inside corners of the bay are 90, 135 and 150 degrees. Bay windows are often associated with Victorian architecture and were a part of the Gothic Revival style. They first achieved widespread popularity in the 1870s.The windows are commonly used to provide the illusion of a larger room. They are used to increase the flow of natural light into a building as well as provide views of the outside that would be unavailable with an ordinary window.

c)This type of a window is a window that is attached to its frame by one or more hinges. Windows are hinged at the side. (Windows hinged at the top are referred to as awning windows. Ones hinged at the bottom are called hoppers.) They are used singly or in pairs within a common frame, in such a case they are hinged on the outside.

They are opened with a crank, lever, or cammed handle, which is placed around hand height or at the bottom and serves as a window lock. A crank, stay, or friction hinge is necessary when the window opens outside, to hold the window in position despite wind.

d) A window composed of pieces of colored glass, transparent, translucent or opaque, frequently portraying persons or scenes. Typically the glass in these windows is separated by lead glazing bars. This type window was popular in Victorian houses, and are especially common in churches.

e) These are any high windows above eye level. The purpose is to bring outside light, fresh air, or both into the inner space. Historically, it denoted an upper level of a Roman basilica or of a Gothic church, the walls of which rise above the rooflines of the lower aisles and are pierced with windows.

Ex. 7. *Look through the table and tell about properties of the frames and sashes materials:*

Material	Thermal Resistance	Durability	Maintenance	Cost	Recycled Content	Recycled Content
wood	very good	variable	high	high	low	shrinks and swells with humidity changes
vinyl or pvc	very good	good*	low	low	very low	–
aluminum	bad**	good	very low	low	typically > 95 %	used in most large structures
steel	medium	superior	very low	high	> 98 %	typically welded at corner joints
fiberglass	very good	very good*	very low	high	medium	–

* Vinyl and fiberglass frames perform well in accelerated weathering tests. Because vinyl is not as strong as other materials, some vinyl frames are reinforced with metal or composite materials to improve their structural strength.

** Modern aluminium window frames are typically separated by a thermal break made of a polyamide. This greatly increases thermal resistance, while retaining virtually all of the structural strength.

Composites may combine materials to obtain aesthetics of one material with the functional benefits of another.

Ex. 8. *Read more information about windows and discuss it with your groupmates. See the Texts for Supplementary Reading (texts 11, 12). Speak about the differences between construction nowadays and in ancient times as well.*

Ex. 9. *Make up a project. Prepare the presentation on the following:*

1. Types of windows: their advantages and disadvantages.
2. Process of glass making.
3. History of windows.

7.2. Tests

Ex. 1. *Put the verb into the right Tense:*

1. Sash windows (**to form**) by four pieces of wood that create a frame around the glass.
2. If you (**never to replace**) the glass before, it (**to be**) easier to remove the whole window.
3. Many older casement windows simply (**to have**) an arm with several holes along its length.
4. Window placement also affects the amount of heat (**to absorb**).
5. In warm climates, windows with a similar coating reflect the heat back outside, (**to prevent**) it from settling in the house.
6. Wood flooring first (**to come**) on the scene during the baroque period, around the late 1600s.
7. Exotic wood sometimes (**to harvest**) from forests where conditions of the local ecology and population (**not to take**) into account.
8. Laminate, which mimics the traditional wood floor, (**to become**) a popular option.
9. Tile is often made from clay (**to mine**) throughout the United States.
10. (**To avoid**) allergic reactions to dust mites, carpets must be vacuumed regularly.

Ex. 2. *Choose the right variant:*

1. Windows are usually … in some other transparent material like float glass.

a) glazed b) made c) laminate

2. Due to the historic unavailability of large …, the “lattice window” was the prevailing style of window until the 20th century.

a) fiber glass b) stained glass c) glass panes

3. A … is the hinged part or flap of a door, shutter, or table.

a) muntin b) leaf c) casement window

UNIT 8. PROFESSIONS IN THE CONSTRUCTION SPHERE

Лексика: тексты **«Construction»**, **«Construction careers»** и упражнения.

Лексический тест.

8.1. Speech Pattern

8.1.1. Active Vocabulary

Ex. 1. *Read and learn the words from the active vocabulary:*

alteration [ˌɔ:lt(ə)'reɪʃ(ə)n] (*syn*. rebuilding) – перестройка, реконструкция
completion [kəm'pli:ʃ(ə)n] – достройка
construction manager – руководитель строительных работ
developer – застройщик, проектная фирма, разработчик
demolition (*syn*. destruction) – разрушение, снос
employee – служащий, работающий по найму
to ensure – обеспечивать, гарантировать
erection (*syn*. construction) – строительство, возведение, сооружение
for-profit – коммерческий
individual – человек, личность
to maintain – осуществлять техническое обслуживание
to pave – мостить
to put in commission – сдать в эксплуатацию
quantity surveyor – инженер-сметчик
to relate – родственный
real property (*syn*. real estate) – недвижимость
repair – ремонт
residential – жилой
surveyor [sə'veɪə] – строительный инспектор, землемер, топограф, геодезист

Ex. 2. *Translate the following phrases into Russian and use them in your own sentences:*

a repairman;
to be under repair;
in good repair;
to be under alteration;
the right of the individuals;
a residential area;
a residential construction industry;
bridge erection;
an erecting crane;
to be erected of wood;
a paved road;
to pave the way to;
to demolish an old house;
for-profit business;
for-profit organization;
to maintain the road;
related sciences;
to ensure the independence;
completion of a building.

Ex. 3. *The table below contains words from your active vocabulary that have been chopped in half. Find the pieces that fit together and write them down:*

indi	idual	residen	eyor	surv
altera	tion	main	ual	indiv
demo	vid	tial	lition	tain

Ex. 4. *Read and translate the following sentences. Pay attention to the meaning of the words and word-combination given below:*

I.

erect *v* – строить, возводить
erected *adj* – смонтированный, возведённый
erection *n* – строительство, возведение, сооружение
erecting *n* – монтаж

1. The guest house was **erected** in eighteen century.
2. The monuments **erected** in the Middle Ages were destroyed and were not survived till our days.
3. The CN Tower may not be the most artful or imaginative architecture in Toronto, but since its **erection** in 1975, the 553.33 meter (1,815 ft., 5 inch) tall CN Tower has defined the Toronto landscape.
4. The company specializes mainly in construction cranes, tower cranes, **erecting** cranes and cranes.

II.

employ *v* – использовать, применять, предоставлять работу
employer *n* – работодатель
employ *n* – служба, занятие
employment *n* – служба, работа, применение, использование

1. Art was **employed** for the display of religious facts.
2. The firm **employs** 150 people.
3. **Employers** and job seekers also often find each other via professional recruitment consultants who receive a commission from the **employer** to find, screen and select suitable candidates.
4. **Employment** is a contract between two parties, one being the employer and the other being the employee.
5. A majority of American union members are now in the government's **employ**.

Ex. 5. *Fill in suitable words from your active vocabulary:*

1. Most structures over fifty years old have been undergone …, even if only by natural forces.

2. Repairing a leaky faucet is one of the most common … in the home.

3. In some cities such as Sacramento, it's against city building codes to … your front yard, but that doesn't stop homeowners from turning their yards into parking lots.

4. … is property that includes land and buildings, and anything affixed to the land.

5. By the time the gatehouse was built, with the … of the house in 1610, such structures no longer served to defend the house and grounds.

6. What should be done by the project manager to … that all work in the project is included?

7. It's important to know what your rights are if a company offers you a position as an independent contractor rather than hiring you as an ….

8. It took many months to build the new palace of culture, and now it is ready to be ….

9. A … is a person, company, or corporation that buys a piece of land with the intention of building upon it.

10. The …'s role is to provide construction advice to the designer, on the owner's behalf, design advice to the constructor, and other advices if necessary.

Ex. 6. *Make the following sentences complete by translating the words and phrases in brackets into English:*

1. The structural (**перестройка**) made to the house were planned with Gail's help.

2. A (**жилой**) area contains houses rather than offices or factories.

3. The first and most important difference between a (**коммерческая**) and non-profit corporation is the profit.

4. Building construction, the techniques and industry involved in the assembly and (**возведение**) of structures, primarily used to provide shelter.

5. As traffic load increases, cost to (**обслуживания, поддержания в порядке**) the roads also increases.

6. By investing in (**недвижимость**), he was one of the richest men in the United States.

7. This land would have a high commercial value if sold to (**застройщики**).

8. If something such as a building is (**в хорошем состоянии**), it is in good condition.

9. Our (**строительный инспектор**) warned us that the house needed totally rebuilding.

10. This mansion will be (**сдать в эксплуатацию**) next year.

8.1.2. The text «Construction»

Ex. 1. *Before you read the text* ***«Construction»****, discuss these questions with your groupmates:*

1. What is construction?
2. What types of construction do you know?
3. How many houses are built every year in our country?
4. What professions are concerned with construction industry?

Ex. 2. *Read and translate the text* ***«Construction»****:*

CONSTRUCTION

Construction is an industry that comprises a wide range of activities involving construction, alteration, and/or repair. Examples include residential construction, bridge erection, roadway paving, excavations, demolitions, and large scale painting jobs.

Houses are for dwelling; large buildings are constructed for industrial purposes; theatres, museums, public and scientific institutions are built for cultural activities of the people.

In general, there are four types of construction:

- residential building construction;
- industrial construction;
- commercial building construction;
- heavy civil construction.

We are going to speak about two first types.

Each type of construction project requires a unique team to plan, design, construct and maintain the project.

Building construction is the process of adding structure to real property. The vast majority of building construction jobs is small renovations, such as completion of a room, or renovation of a bathroom. Often, the owner of the property acts as laborer, paymaster, and design team for the entire project.

Industrial construction, though a relatively small part of the entire construction industry, is a very important component. Owners of these projects are usually large, for-profit, industrial corporations.

Both types of construction require a team of individuals to ensure a successful project. A formal design team may include surveyors, civil engineers, quantity surveyors, mechanical engineers, electrical engineers, structural engi-

neers, fire protection engineers, planning consultants, architectural consultants. The design team is most commonly employed by the property owner.

The modern trend in design is toward integration of previously separated specialties, especially among large firms. In the past, architects, interior designers, engineers, developers, construction managers, and general contractors were more likely to be entirely separate companies, even in the larger firms. Presently, a firm that is nominally an "architecture" or "construction management" firm may have experts from all related fields, or have an associated company that provides each necessary skill. Thus, each such firm may call itself as "one-stop shopping" for a construction project, from beginning to end.

8.1.3. Drilling

Ex. 1. *Find in the text* ***«Construction»*** *English equivalents to Russian ones given below:*

включать в себя;
ремонт;
возведение мостов;
снос;
спроектировать;
обслуживать проект;
недвижимость;
большинство работ, выполняемых строительными компаниями;
проектирование дополнительной комнаты;
владелец недвижимости;
относительно небольшая часть;
коммерческая компания;
современная тенденция в проектировании;
вероятнее всего.

Ex. 2. *Complete the sentences using the following words:*

A unique team, component, real, alteration, owner, by, to require, architecture, separate, beginning.

1. Construction is an industry that comprises a wide range of activities involving construction, … and/or repair.
2. Every construction project requires … to plan, design, construct and maintain the project.
3. Building construction is the process of adding structure to … property.
4. The … of the real estate acts as laborer, paymaster, and design team for the entire project.
5. Industrial construction is a very important … of the entire construction industry.
6. It is necessary … a team of individuals to ensure a successful project.
7. The design team is most commonly employed … the property owner.
8. In the past specialists in different fields were more likely to be entirely … companies, even in the larger firms.

9. Presently, an … firm may have experts from all related fields as employees, or to have an associated company that provides each necessary skill.

10. You can order all kind of services in this firm, from … to end.

Ex. 3. *Answer the questions to the text* ***«Construction»****:*

1. How many types of construction do you know and what are they?
2. What does each type of construction project require?
3. What is a building construction?
4. What is an industrial construction?
5. Who employs the design team?
6. What specialists are required to erect a building?
7. What does the modern trend in design concern?
8. Is it convenient to find all services in one construction firm?

Ex. 4. *Agree or disagree with the statements according to the information from the text* ***«Construction»****, using the cliches:*

That's wrong.	– Это неверно.
That's wright.	– Верно.
According to the text …	– Согласно тексту.

1. Construction industry does not develop and does not include a wide range of activities.
2. There is only one type of construction.
3. Building construction means erection of houses and all jobs relating to finishing work and putting the object in commission.
4. Building construction as well as industrial construction requires a special team of persons employed by the property owner.
5. At present as well as in the past there is a trend toward integration of previously separated specialties.
6. Any construction firm may have experts from all related fields, or have an associated company that provides each necessary skill.

Ex. 5. *Divide the text* ***«Construction»*** *into logical parts, entitle each part and write down the key words.*

Ex. 6. *Retell the text* ***«Construction»*** *using Ex. 5 as a plan.*

Ex. 7. *Before reading the text* ***«Construction careers»*** *study the meanings of the following professions and used tools. Use the dictionary if you need:*

building designer;	mason;	screwdriver;	hand plane;
city planner;	surveyor;	plumber;	wood chisel;
structural engineer;	roofing felt;	compass;	roofer;
glazier;	level tube;	carpenter;	paper-hanger.

plasterer	claw hammer	roll	grappler
faucet	pliers	interior designer	putty knife
bricklayer's float	electrician	glasscutter	general contractor

Ex. 8. *Read and translate the text* ***«Construction careers»****:*

CONSTRUCTION CAREERS

Actually, choosing a career is an involved process and you should give it the time it deserves. Career planning is a multi-step process that involves learning enough about yourself and the occupations which you are considering in order to make an informed decision.

There are different careers within the construction industry. Technical and specialized occupations require both training and technical knowledge. Here is a list of some careers in construction industry:

An Architect is a licensed professional who organizes space. Architects design houses, office buildings, skyscrapers, landscapes, ships, and even entire cities. The services of a licensed architect depend on the type of project. Many architects elect to move into real estate (property) development, project management, construction management, interior design or other related fields.

Professional Building Designers, or Home Designers, specialize in designing single family dwellings. In some cases, they may also design other light frame residential buildings and decorative facades for larger buildings. Unlike architects, home designers are not legally required to receive special licenses. However, a designer who carries the title "Certified Professional Building Designer" has completed training courses, practiced building design for at least six years, and passed a rigorous certification exam.

An Interior Designer enhances the function, safety and aesthetics of interior spaces while taking into account how different colors, textures, furniture, lighting and space work together to meet occupants' or visitors' needs. He or she works with both private and public spaces including residences, shopping malls, schools, offices and hospitals.

A City Planner helps a community to decide how to best use its land and resources with an eye toward future growth and revitalization. He or she usually works for a local government. An urban planner or regional planner recommends locations for roads, schools and other infrastructure in order to help local officials solve social, economic and environmental problems.

Structural Engineers analyze, design, plan, and research structural components and structural systems to achieve design goals and ensure the safety and comfort of users or occupants. Typical structures designed by a structural engineer include buildings, towers, stadia and bridges. Other structures such as oil rigs, space satellites, aircraft and ships may also be designed by a structural engineer. Most structural engineers are employed in the construction industry.

A General contractor is responsible for the day-to-day oversight of a construction site and communication of information to involved parties throughout the course of a building project. The General contractor is employed by the client, on the advice of the Architect. The general contractor must first assess the project-specific documents. In the case of renovations, a site visit is required to get a better understanding of the project. The contractor will then calculate a price. The general contractor considers the cost of materials and equipment as well as the cost of labor to provide the owner with an approximate price for the project.

A Glazier is a construction professional who selects, cuts, installs, replaces, and removes residential, commercial, and artistic glass.

An Electrician is a tradesman specializing in electrical wiring of buildings, stationary machines and related equipment. Electricians may be employed in the installation of new electrical components or the maintenance and repair of existing electrical infrastructure.

A Plasterer is a tradesman who works with plaster, such as forming a layer of plaster on an interior wall or plaster decorative moldings on ceilings or walls.

A Plumber specializes in installing and maintaining systems used for drinking water, sewage, and drainage in plumbing systems.

A Roofer specializes in roof construction, concentrating on the application of materials that water proof and / or weather proof buildings.

A Bricklayer or mason is a craftsman who lays bricks to construct brickwork. The term also refers to personnel who use blocks to construct block work walls and other forms of masonry.

A Carpenter is a skilled craftsperson who works with timber to construct, install and maintain buildings, furniture, and other objects. The work, known as carpentry, may involve manual labor and work outdoors.

A Surveyor is a person whose job is to survey land or to survey buildings.

A career in construction industry is not new one as it is a traditional industry by nature. From the very beginning man has been a builder and his creative ability and skillful craftsmanship are what the modern civil engineering industry is founded on. Today these traditional skills are coupled with the entire modern technology and thinking available to enable civil and industrial engineers to carry out their work to the highest of standards.

Ex. 9. *Match specialists with the tools and materials used in this sphere:*

1. a glazier	a) a wall-paper, glue, brushes, a roll
2. a carpenter	b) a brick, a building mortar, gloves, a bricklayer's float, level tube
3. an electrician	c) putty knife, putty, lime mortar
4. a plumber	d) a general plan of a building, a pencil, an eraser, compass, drawing board

5. a mason	e) wires, a screwdriver, an electrical/insulating tape, a claw hammer, bulbs
6. a roofer	f) colours, respirator, brushes, a roll, spray gun
7. an architect	g) pipes, a set of screw keys, a screwdriver, an electrical / insulating tape, a faucet
8. a plasterer	h) a hammer, a hand plane, a saw, nails, a wood chisel
9. a painter	i) hammer, nails, safety equipment, roofing felt, tile, a grappler
10. a paper-hanger	j) a glasscutter, a hammer, nails, a claw hammer, pliers

Ex. 10. *Say what specialist is responsible for:*

1. making and repairing wooden things;
2. surveying land;
3. inventing or realizing a particular idea or project;
4. designing the decoration for the inside of people's houses;
5. employing subcontractors, supervising and coordinate their actions;
6. constructing large structures such as roads, bridges, and large buildings;
7. connecting and repairing things such as water and drainage pipes, baths, and toilets;
8. installing and repairing electrical equipment;
9. putting roofs on buildings and repairing damaged roofs;
10. painting walls, doors, and some other parts of buildings.

Ex. 11. *Find in the text* ***«Construction careers»*** *English equivalents:*

сложный процесс;
многоступенчатый процесс;
обоснованное решение;
технические профессии и профессии узкой направленности;
руководство проектом;
управление строительством;
место жительства отдельной семьи;
легкокаркасные жилые дома;
в отличие от архитекторов;
сложный экзамен на сертификат;
улучшать эстетичный вид внутреннего пространства;
рабочее пространство;
имея в виду;
местные власти;
достичь цели проекта;
художественное стекло;
электропроводка здания;
накладывать декоративные отливки;
водопроводно-канализационная сеть здания;
применение материалов;
каменная кладка;
квалифицированный рабочий;
ручной труд;
топографическая съёмка земли.

Ex. 12. *Match the English word combinations with their Russian equivalents:*

1. to complete on schedule	a) оценивать здание
2. to build a partition	b) армировать кладку
3. to apply a plaster	c) относиться к строительству
4. to glaze a window	d) закончить согласно графику
5. to apply finishes	e) выбирать профессию
6. to apply a varnish	f) построить перегородку
7. to select an occupation	g) покрыть лаком
8. to relate to construction	h) наносить штукатурку
9. to survey a building	i) застеклить окно
10. to reinforce masonry	j) отделывать поверхность

Ex. 13. *Read the text (3 min.), entitle it and say its main idea in a few sentences in Russian:*

Civil engineering is a business and its survival is in making a profit. The success of civil engineering is in the success of the "team". The team can be made up of engineers, quantity surveyors, estimators, planers, computer specialists; all form an integral and equally important part of the business. Engineers may not grow into managers, but they must be trained for this role.

The training of graduate engineers in the construction industry at present consists of the undergraduate training within tertiary education, and postgraduate training within the industry itself. Although the number of hours devoted to teaching management is increasing at educational establishments, graduates are still not adequately prepared for industry. Further training within the industry is varied and dependent upon many factors such as needs of the company, size of the company, and current health of the industry.

Management and management training within the construction industry is differed and is dependent on the sector, constructing within which tan engineer operates. It is necessary to take into consideration the attitudes of civil engineers and their companies towards modern management practices. Construction managers are moving rapidly to meet the challenges of a modern business world and are making full use of the tools available.

Ex. 14. *Read information about choosing the career and discuss it with your groupmates. Write down your own resume. See the Texts for Supplementary Reading (Text 15).*

Ex. 15. *Read the text (3 min.), entitle it and say its main idea in a few sentences in English:*

Typically the construction industry includes three parties: an owner, a designer (architect or engineer), the builder (usually called the general contractor).

Traditionally, there are two contracts between these parties as they work together to plan, design, and construct the project. The first contract is the owner-designer contract, which involves planning, design, and construction administration. The second contract is the owner-contractor contract, which involves construction. An indirect, third-party relationship exists between the designer and the contractor due to these two contracts.

An alternate contract or business model replaces the two traditional contracts with three contracts: owner-designer, owner-construction project manager, and owner-builder. The construction project management company becomes an additional party engaged in the project to act as an advisor to the owner, to which they are contractually tied. The construction manager's role is to provide construction advice to the designer, on the owner's behalf, design advice to the constructor, again on the owner's behalf, and other advice as necessary.

Ex. 16. *Read information about the model of construction management and discuss types of contracts with your groupmates. See the Texts for Supplementary Reading (Text 16).*

Ex. 17. *Make up a project. Prepare the presentation on the following:*

1. my future profession;
2. the future of the construction sphere;
3. careers in the sphere of construction.

Ex. 18. *Dramatize a dialogue on the following:*

1. on the construction site;
2. at the building firm office;
3. between to graduates seeking for a job;
4. laboratory works and their significance;
5. building materials lab;
6. building laboratory devices and their application.

Ex. 19. *Dramatize your own dialogue. Imagine that you come to the architect firm. Ask the architect to help you to make the design of your future house.*

Ex. 20. *Imagine that you met your friends whom you haven't seen for ages. Tell them:*

1. about your studies (civil engineer, to major in, special subjects, to have practice, to attend lectures, to do labs);
2. about practical training (to work as, worker, plasterer, to lay bricks, to be in charge, painter, to work at (in), to last, to take place);
3. about your future specialty (to major in, civil engineering, to erect, residential, industrial building, types of buildings, industrial methods, building materials);

4. the problems the builders must solve (to decrease cost, quality, to improve, provide with, building materials, industrial methods, construction mechanisms).

Ex. 21. *Two-students drill. Use «as far as I know», «to my mind», «in my opinion», «I think», etc.:*

1. What special labs are there in your faculty?
2. Could you name devices to be used in the laboratory of building materials?
3. What are sieves used for?
4. What are electric furnaces used for?
5. What device is used for strength definition?
6. To study building and mechanical properties of building materials is very important, isn't it?
7. Students put theoretical knowledge into practice during laboratory works, don't they?
8. Who helps the students to operate different devices?

Ex. 22. *A talk between a group of students:*

1. What year student are you?
2. What faculty are you in?
3. What is your future specialty?
4. What would you like to major in?
5. What special subjects do you do?
6. Do you have practice?
7. What can you work during practice?
8. Where do students usually have practice?
9. What can graduates work as?
10. Where would you like to work after graduating from the university?

8.2. Tests

Ex. 1. *Choose the right variant:*

1. The … of our roof cost one hundred dollars.

a) surveyor b) plumber c) repair

2. A … area contains houses rather than offices or factories.

a) residential b) industrial c) commercial

3. The … of temporary fencing was necessary to protect hedges under repair.

a) erection b) build c) create

ЗАКЛЮЧЕНИЕ

Вы закончили знакомство и изучение учебного пособия «Английский язык в сфере строительства». Настоящее пособие может быть использовано студентами как для аудиторной, так и для самостоятельной работы дома. Полученные знания в дальнейшем помогут углубленно изучить английский язык.

Приведённые в учебном пособии источники не являются принципиально универсальными, студентам рекомендуется использовать и другие справочные материалы, не указанные в настоящем пособии.

БИБЛИОГРАФИЧЕСКИЙ СПИСОК

1. Бжиская, Ю. В. Английский язык для строительных специальностей : практикум / Ю. В. Бжиская. – Ростов н/Д. : Феникс, 2008. – 222 с.

2. Гарагуля, С. И. Английский язык для студентов строительных специальностей. Learning Building Construction in English : учеб. пособие / С. И. Гарагуля. – Ростов н/Д. : Феникс, 2011. – 347 с.

3. Золотухина, В. П. Обучение студентов неязыковых специальностей устному научно-техническому переводу / В. П. Золотухина // Учёные записки Комсомольского-на-Амуре государственного технического университета. Науки о человеке, обществе и культуре. – 2011. – № I-2(5). – С. 30-32.

4. Английский язык для строителей : практикум / О. Н. Мусихина [и др.]. – Ростов н/Д. : Феникс, 2004. – 352 с.

5. Першина, Е. Ю. Английский язык для транспортных специальностей вузов. В 2 т. Т. 1: Базовый профессиональный курс : учеб. пособие / Е. Ю. Першина, Н. А. Тарануха. – М. : СОЛОН-ПРЕСС, 2011. – 272 с.

6. About.com [Электронный ресурс] / Режим доступа: http:// www.about.com/#!/editors-picks/

7. Study.ru [Электронный ресурс] / Режим доступа: http:// www.study.ru/

8. Wikipedia. The Free Encyclopedia [Электронный ресурс] / Режим доступа: http://en.wikipedia.org/wiki/Main_Page

ПРИЛОЖЕНИЕ 1

SECTION GRAMMAR.
СПРАВОЧНИК ПО ГРАММАТИКЕ АНГЛИЙСКОГО ЯЗЫКА

1. ВРЕМЕНА АНГЛИЙСКОГО ГЛАГОЛА. ДЕЙСТВИТЕЛЬНЫЙ ЗАЛОГ (ACTIVE VOICE)

В английском языке значения действительного залога (Active Voice) и страдательного залога (Passive Voice) совпадают со значениями соответствующих залогов в русском языке. Глагол в действительном залоге показывает, что действие *совершает* лицо или предмет:

He often *asks* questions. *Он часто задаёт вопросы.*

Глагол в страдательном залоге означает, что действие *направлено* на лицо или предмет:

He is often *asked* questions. *Ему часто задают вопросы.*

Принципы образования и случаи употребления английских глаголов различных времён в действительном залоге приведены в табл. П1.1.

Таблица П1.1

Употребление		Образование
Indefinite (Simple) показывает действие (обычное, повторяемое) как факт	Present Past Future	глагол в личной форме
Continuous показывает действие как процесс	Present Past Future	to be + ing
Perfect показывает действие, законченное до определённого момента в настоящем, прошедшем и будущем	Present Past Future	to have + причастие II
Perfect Continuous показывает действие, начатое некоторое время назад и всё ещё продолжающееся или только что закончившееся	Present Past Future	to have been + ing

Примеры образования английских глаголов различных времён в действительном залоге приведены в табл. П1.2.

Таблица П1.2

Время		Форма		Обстоятельство времени
Indefinite (Simple)	Present	I, we, you, they he, she, it	ask asks	usually, sometimes, every day, often, seldom
	Past	+ed или II ф. неправ. глаг.	asked wrote	yesterday, last year, 3 years ago
	Future	I, we, все остальные	will ask	tomorrow, next year, in 3 years
Continuous	Present	am is are	asking	now, at present
	Past	was were	asking	yesterday, from 5 till 6
	Future	will be	asking	tomorrow, from 5 till 6
Perfect	Present	have has	asked	just, ever, never, yet, already, today, this year for, since
	Past	had	asked	by 3 o'clock yesterday
	Future	will have	asked	by 3 o'clock tomorrow
Perfect Continuous	Present	have been has	asking	for, since
	Past	had been	asking	for, since
	Future	will have been	asking	for

2. СТРАДАТЕЛЬНЫЙ ЗАЛОГ (PASSIVE VOICE)

Формы страдательного залога образуются при помощи глагола **to be** в соответствующей форме и **Participle II** (причастия II) смыслового глагола.

Примеры использования форм страдательного залога:

– Indefinite Passive (to be + Participle II):

The newspapers *are delivered* every morning. *Газеты доставляются каждое утро*. (Present Indefinite Passive)

This book *was bought* a month ago. *Эта книга была куплена месяц назад*. (Past Indefinite Passive)

The letter *will be mailed* tomorrow. *Письмо будет оправлено завтра*. (Future Indefinite Passive)

– Continuous Passive (to be + being + Participle II):

The house *is being repaired*. *Дом ремонтируется.* (Present Continuous Passive)

When John was ill he *was being taught* at home. *Когда Джон болел, его обучали дома.* (Past Continuous Passive)

– Perfect Passive (to have + been + Participle II):

This letter *has been brought* by the secretary. *Секретарь принёс письмо. / Письмо принесено секретарём.* (Present Perfect Passive)

He decided to become a writer only when his first story *had been published.* *Он решил стать писателем, только когда его первый рассказ был напечатан.* (Past Perfect Passive)

By the 1st of July the last exam will *have been passed*. *К первому июля последний экзамен будет вами сдан*. (Future Perfect Passive)

Принципы образования форм страдательного залога приведены в табл. П.1.3.

Таблица П1.3

Время	Present		Past		Future	
Indefinite (Simple)	I he (she) we (you, they)	am asked is asked are asked	I (he, she) we (you, they)	was asked were sked	I (we) he (she, you, they)	will be asked
Continuous	I he (she) we (you, they)	am being asked is being asked are being asked	I (he, she) we (you, they)	was being asked were being asked	–	–
Perfect	I, we, you, they he (she)	have been asked has been asked	I (he, she, we, you, they)	had been asked	I, we, he, she, you, they	will have been asked

Сказуемое в страдательном залоге может переводиться на русский язык кратким страдательным причастием; глаголом на ***-ся***; неопределённо-личным глаголом.

Следует обратить особое внимание на перевод глаголов с предлогом в страдательном залоге:

The book is much *spoken about*. *Об этой книге много говорят.*
He can't be *relied on*. *На него нельзя положиться.*

Среди этих глаголов наиболее распространены следующие:

- **hear of** – слышать о…;
- **laugh at** – смеяться над…;
- **look after** – присматривать за …;

- **look at** – смотреть на…;
- **rely on** – полагаться на…;
- **send for** – посылать за…;
- **speak of (about)** – говорить о…;
- **pay attention to** – обращать внимание на…;
- **take care of** – заботиться о….

В русском переводе не все глаголы сохраняют предлог:

He was *listened to* with great attention. *Его слушали с большим вниманием.*

Среди этих глаголов наиболее распространены следующие:
- **to listen to** – слушать что-либо, кого-либо;
- **to look for** – искать что-либо;
- **to provide for** – обеспечить кого-либо, обеспечить чем-либо;
- **to explain to** – объяснять кому-либо.

3. СОГЛАСОВАНИЕ ВРЕМЁН (SEQUENCE OF TENSES)

В английском языке употребление времени глагола – сказуемого в придаточном предложении зависит от времени глагола – сказуемого в главном предложении. Это называется правилом согласования времен.

Если в главном предложении глагол – сказуемое стоит в одной из форм настоящего или будущего времени, то глагол – сказуемое в придаточном предложении может стоять в любой временной форме, которая требуется по смыслу:

He says that he *was busy* yesterday. *Он говорит, что был занят вчера.*

He says that he *will be busy* tomorrow. *Он говорит, что будет занят завтра.*

He says that he *is busy*. *Он говорит, что занят.*

Если в главном предложении глагол – сказуемое стоит в одной из форм прошедшего времени, то в придаточном предложении глагол – сказуемое нужно употреблять также в одной из форм прошедшего, а именно:

– если действие придаточного предложения происходит одновременно с действием главного предложения, то в придаточном предложении употребляется глагол в одной из форм прошедшего неопределенного или прошедшего продолженного времени:

He told me that he *studied* here. *Он сказал мне, что учится здесь.*

She said she *was preparing* for a report. *Она сказала, что готовится к докладу.*

– если действие придаточного предложения предшествует действию главного предложения, то в придаточном предложении употребляется глагол в одной из форм прошедшего совершенного времени:

The rector said that the Moscow Higher Women's Courses *had been reorganised* into the Second Moscow State University. *Ректор сказал, что Московские высшие женские курсы были преобразованы во Второй Московский Государственный Университет.*

– если действие придаточного предложения относится к будущему времени, а в главном предложении действие относится к прошедшему времени, то глагол – сказуемое должен стоять в форме **Future-in-the-Past**:

I thought I *should* know the way this time, but I was wrong. *Я думал, что на этот раз я узнаю дорогу, но я ошибся.*

Форма **Future-in-the-Past** образуется от соответствующих форм Future Tenses, но вместо вспомогательного глагола **shall** употребляется глагол **should**, а вместо вспомогательного глагола **will** – **would**:

Правило согласования времён соблюдается не всегда. Глагол – сказуемое в придаточном предложении употребляется в любой временной форме, которая требуется по смыслу (независимо от временной формы глагола – сказуемого в главном предложении), в следующих случаях:

– если в состав сказуемого в придаточном предложении входит один из модальных глаголов **must**, **ought**, **should**:

I knew that he *must* come to the Academy by 3 o'clock. *Я знал, что он должен прийти в академию к трём часам.*

– если в придаточном предложении сообщается об общеизвестном факте или неопровержимой истине:

The teacher told the pupils that Novosibirsk *stands* on the both banks of the river Ob. *Учитель рассказал ученикам, что Новосибирск расположен на обоих берегах реки Обь.*

– если используется придаточное определительное предложение и если предложение вводится с помощью союзных словх **as** (как, в качестве), **than** (чем):

It was not so cold yesterday *as* it *is* today. *Вчера не было так холодно, как сегодня.*

– если действие придаточного предложения предшествует действию главного предложения, и время действия придаточного предложения указано точно:

I knew that she *left* Moscow in 1945. *Я знала, что она уехала из Москвы в 1945 году.*

Но:

I knew that she *had left* Moscow some years ago. *Я знала, что она уехала из Москвы несколько лет назад.*

4. ИНФИНИТИВ

4.1. Формы инфинитива

Инфинитив (**the Infinitive**) – это неличная форма глагола, которая называет действие, он является основной (первой) формой глагола и представляет глагол в словаре. Признаком инфинитива является частица **to**: **to help** – помогать, **to read** – читать. Инфинитив употребляется без частицы **to** в следующих случаях:

– после глаголов **shall, will**:

He *will* write to his parents tomorrow. *Завтра он напишет своим родителям.*

– после модальных глаголов (кроме глагола **ought**):

She *can* ski and skate. *Она умеет кататься на коньках и на лыжах.*

– после глаголов чувственного восприятия **feel, see, hear, watch** и др.:

We *saw* him enter. *Мы видели, как он вышел.*

– после глаголов **let** (разрешать); **have, make** (заставлять):

What *makes* you think so? *Что заставляет тебя так думать?*

Let **me take this book, please.** *Пожалуйста, разрешите мне взять эту книгу.*

– после выражений **had better** (лучше), **would rather** (лучше бы):

You *had better* go now. *Лучше уйди.*

I must see you at once. *Мне надо сейчас же встретиться с тобой.*

Формы инфинитива в современном английском языке приведены в табл. П1.4.

Таблица П1.4

Время	Вид залога	
	Active	Passive
Indefinite	to write	to be written
Continuous	to be writing	—
Perfect	to have written	to have been written
Perfect Continuous	to have been writing	—

Инфинитив в форме действительного залога обозначает действие, *произведённое* кем-либо (в предложении он является подлежащим), инфинитив в страдательном залоге обозначает действие, *направленное* на кого-то:

I like *to help*. *Я люблю помогать.*
I like *to be helped*. *Я люблю, когда мне помогают.*

Инфинитив в Indefinite Active обозначает действие, не уточняя характер его протекания. Инфинитив в Continuous Active подчёркивает длительность действия:

She likes *to write* letters. *Она могла писать письмо.*
She must *be* still *writing*. *Она, должно быть, всё ещё пишет.*

Неперфектный инфинитив выражает действие, одновременное с действием глагола – сказуемого, или следующее за ним. Перфектный инфинитив выражает действие, предшествующее действию, выраженному глаголом – сказуемым:

I am glad *to study* at the University. *Я рад, что учусь в университете.*
I am glad *to have studied* at the University. *Я рад, что учился в университете.*

4.2. Функции инфинитива

В предложении инфинитив может являться следующими членами предложения:
– подлежащим:

***To walk* in the garden was very pleasant.** *Гулять в саду было очень приятно.*
***To read* a lot is *to know* much.** *Много читать – много знать.*

– обстоятельством цели:

***To read* the book I went to the reading-hall.** *Чтобы прочитать эту книгу, я пошёл в читальный зал.*

– определением:

He is going to take part in the conference *to be held* in Moscow. *Он собирается принять участие в конференции, которая должна состояться в Москве.*

– дополнением:

He was glad *to have been given* a new job. *Он был рад, что ему дали новую работу.*
I decided *to read* this book. *Я решил прочитать эту книгу.*

– частью сказуемого (часто модального):

You *may come in*. *Вы можете войти.*

We ought *to leave* early in the morning. *Мы должны уехать рано утром.*

My wish is *to read* much. *Моё желание – много читать.*

5. ПРИЧАСТИЕ I

5.1. Формы причастия I

Причастие I (Participle I) – неличная форма глагола, обладающая свойствами глагола, прилагательного и наречия.

Формы причастия I в современном английском языке приведены в табл. П1.5.

Таблица П1.5

Время	Вид залога	
	Active	Passive
Indefinite (Simple)	asking	being asked
Perfect	having asked	having been asked

Participle I Indefinite обозначает действие, происходящее одновременно с действием глагола – сказуемого:

***While translating* difficult texts we use a dictionary.** *Переводя трудные тексты, мы пользуемся словарём.*

Participle I Perfect обозначает действие, предшествующее действию, выраженному глаголом – сказуемым:

***Having read* the book I returned it to the library.** *Прочитав книгу, я вернул её в библиотеку.*

5.2. Функции причастия I

В предложении причастие I может являться следующими членами предложения:

– определением (в этой функции употребляется только Participle I Indefinite, которое соответствует русскому причастию настоящего времени в той же функции):

A *smiling* girl. *Улыбающаяся девочка.*

A *swimming* man. *Плывущий человек.*

The men *building* our house with me are my friends. *Люди, строящие наш дом вместе со мной, – мои друзья.*

The house *being built* in our street is a new building of school. *Дом, строящийся на нашей улице, – это новое здание школы.*

–частью сказуемого (относится к Participle I Indefinite Active):

They *are playing* chess. *Они играют в шахматы.*

– обстоятельством, выраженным различными формами причастия. Participle I Indefinite Active в этой функции чаще всего стоит в начале предложения и переводится на русский язык деепричастием несовершенного вида:

***Translating* the article he consulted the dictionary.** *Переводя статью, он пользовался словарём.*

Перед причастием в функции обстоятельства часто стоят союзы **when** или **while**. В этом случае словосочетания переводятся либо деепричастным оборотом (деепричастием) с опущением союза, либо придаточным предложением, которое начинается с союзов «когда», «в то время как»:

While *translating* the article the student consulted the dictionary. *Переводя статью, студент пользовался словарём. / Когда студент переводил статью, он пользовался словарём.*

Participle I Indefinite Passive переводится на русский язык обстоятельственным придаточным предложением:

***Being built* of wood the bridge could not carry heavy loads.** *Так как мост был построен из дерева, он не мог выдержать больших нагрузок.*

Participle I Perfect Active переводится деепричастием совершенного вида:

***Having built* a house he began building a greenhouse.** *Построив дом, он начал строить парник.*

Participle I Indefinite Passive в функции обстоятельства времени, причины переводится обстоятельственным придаточным предложением. При этом в качестве подлежащего русского придаточного предложения употребляется подлежащее английского предложения:

***Having been built* of concrete, the house was cold in winter.** *Так как дом был построен из бетона, зимой в нём было холодно.*

6. ПРИЧАСТИЕ II

6.1. Формы причастия II

Причастие II (Participle II) – неличная форма глагола (третья основная форма глагола), имеет одну неизменяемую форму со страдательным значением и обозначает действие, которое испытывает на себе лицо или предмет, соответствует в русском языке причастию страдательного залога.

Причастие II правильных глаголов имеет ту же форму, что и Past Indefinite, и образуется при помощи прибавления суффикса ***-ed*** к основе глагола, например: **to ask** – **ask*ed***, **to help** – **help*ed***.

6.2. Функции причастия II

Причастие II может являться следующими членами предложения:
– определением:

Lost **time is never found again.** *Потерянное время никогда не вернёшь.*
A *written* letter lay on the table. *Написанное письмо лежало на столе.*
They are reconstructing the house *built* in the 18th century. *Они реставрируют здание, построенное в 18-м веке.*

– обстоятельством:

If *built* of the local stone, the road will serve for years. *Если построить дорогу (если дорога построена) из местного камня, она будет служить долгие годы.*

Перед причастием II в функции обстоятельства могут стоять союзы **if**, **unless**, **when**. В этом случае английское причастие переводится обстоятельственным придаточным предложением, в котором подлежащее то же, что и в главном предложении.

7. НЕЗАВИСИМЫЙ ПРИЧАСТНЫЙ ОБОРОТ

В состав независимого причастного оборота, также называемого абсолютным причастным оборотом (the Nominative Absolute Participial Construction), может входить как Participle I, так и Participle II.

7.1. Независимый причастный оборот с причастием I

В этой конструкции причастие I выражает действие, не связанное с действием, обозначенным в предложении глаголом – сказуемым. Оборот чаще всего состоит из существительного в общем падеже (реже – из местоимения в именительном падеже) и причастия I. Действие, выраженное причастием, относится к этому существительному или местоимению.

Такой оборот характерен для письменной речи и почти не употребляется в речи разговорной. В предложении он выступает в роли различных обстоятельств и всегда отделяется запятой от остального предложения.

На русский язык такой оборот переводится придаточным предложением:

***The weather permitting*, we shall go to the country.** *Если погода позволит, мы поедем за город.* (обстоятельство условия)

***It being very cold*, we could not go for a walk.** *Так как было холодно, мы не смогли пойти на прогулку.* (обстоятельство причины)

***The sun having risen*, we continued our way.** *После того как солнце взошло, мы продолжили свой путь.* (обстоятельство времени)

***The article having been translated*, the student showed it to the teacher.** *После того как (когда) статья была переведена, студент показал её преподавателю.* (обстоятельство времени)

7.2. Независимый причастный оборот с причастием II

Этот оборот представлен личным местоимением в именительном падеже или существительным в общем падеже, претерпевающим действие, которое выражено причастием II.

Независимый причастный оборот с причастием II употребляется в функции различных обстоятельств и переводится на русский язык соответствующим обстоятельственным предложением:

***His work finished*, he went home.** *Когда его работа была закончена, он пошёл домой.*

8. УСЛОВНЫЕ ПРИДАТОЧНЫЕ ПРЕДЛОЖЕНИЯ

8.1. Условные предложения типа I

Условие, содержащееся в условном придаточном предложении, рассматривается говорящим как реально предполагаемый факт, относящийся к настоящему, прошедшему или будущему времени. Сказуемые главного и придаточного предложений выражаются глаголами в формах изъявительного наклонения:

If the weather *is nice*, we *go* for a walk. *Если погода хорошая, мы ходим на прогулку.*

If the weather *was nice*, we *went* for a walk. *Если погода была хорошая, мы ходили на прогулку.*

If the weather *is nice*, we*'ll go* for a walk. *Если погода будет хорошая, мы пойдём на прогулку.*

8.2. Условные предложения типа II

Условие, содержащееся в условном придаточном предложении, рассматривается говорящим как маловероятное. Для выражения малой вероятности осуществления действия в настоящем или будущем временах сказуемое главного предложения употребляется в форме сослагательного наклонения **should / would + Indefinite Infinitive без to**, а сказуемое придаточного предложения – в форме сослагательного наклонения, аналогичной **Past Indefinite** или **were** для всех лиц от глагола **to be**:

If he *were* free, he *would do* it. *Если бы он был свободен, он бы это сделал.*

If we *paid* more attention to grammar, we *should know* the language better. *Если бы мы уделяли грамматике больше внимания, мы бы знали язык лучше.*

8.3. Условные предложения типа III

Условие, содержащееся в условном придаточном предложении, рассматривается говорящим как неосуществимое, так как относится к прошлому времени. Сказуемое главного предложения употребляется в форме сослагательного наклонения **should / would + Perfect Infinitive**, а сказуемое придаточного предложения – в форме сослагательного наклонения, аналогичной Past Perfect:

I *should not have been late* yesterday, if my watch had been right. *Я бы не опоздал вчера, если бы мои часы шли правильно.*

8.4. Союзы условных придаточных предложений

В конструкциях условных придаточных предложений используются следующие союзы:

- **if** – если;
- **in case** – в случае, если;
- **suppose (that)** – предположим, что;
- **on condition (that)** – при условии, что;
- **provided (that)** – при условии, что;
- **unless** – если … не;
- **but for** – если бы не.

ПРИЛОЖЕНИЕ 2

TEXTS FOR SUPPLEMENTARY READING

Text 1

THE TOWER OF SUURHUSEN

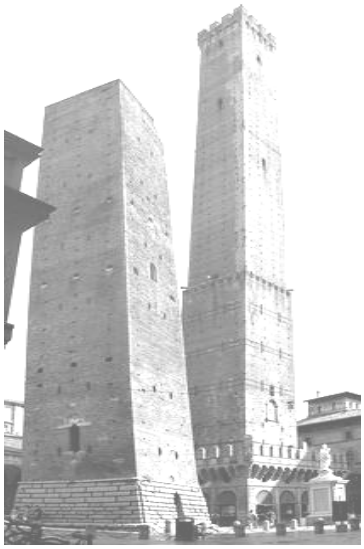
About.com Guide

The leaning Tower of Suurhusen in East Frisia, Germany is the most titled tower in the world, according to The Guinness Book of World Records. The square tower, or steeple, of Suurhusen was added to the Medieval church in 1450. Historians say that the tower started to lean in the 19th century after water was drained from the marshy land. The Tower of Suurhusen tilts at a 5.19 degree angle. The Tower was closed to the public in 1975 and did not reopen until 1985, after restoration work was completed.

Text 2

THE TWO TOWERS OF BOLOGNA

About.com Guide



The two leaning towers of Bologna, Italy are symbols of the City. They are estimated between 1109 and 1119. The two towers of Bologna are named after the families who had them constructed. *Asinelli* is the taller tower and Garisenda is the smaller tower. The *Garisenda* Tower used to be taller. It it was shortened during the 14th century to help make it safer.

Text 3

ANCIENT EGYPT

About.com Guide

The pyramid form was a marvel of engineering that allowed ancient Egyptians to build enormous structures. The most famous pyramids in Egypt are the Pyramids of Giza, built more than 2,000 years BC. to shelter and safeguard the souls of Egyptian pharaohs.

Construction in Ancient Egypt. Wood was not widely available in the arid Egyptian landscape. Houses in ancient Egypt were made with blocks of sun-baked mud. Flooding of the Nile River and the ravages of time destroyed most of these ancient homes. Much of what we know about ancient Egypt is based on great temples and tombs, which were made with granite and limestone and decorated with hieroglyphics, carvings, and brightly colored frescoes. The ancient Egyptians didn't use mortar, so the stones were carefully cut to fit together.

Pyramids in Egypt. The development of the pyramid form allowed Egyptians to build enormous tombs for their kings. The sloping walls could reach great heights because their weight was supported by the wide pyramid base. An innovative Egyptian named Imhotep is said to have designed one of the earliest of the massive stone monuments, the Step Pyramid of Djoser (2,667 BC – 2,648 BC).

Columns in Egypt. Builders in ancient Egypt didn't use load-bearing arches. Instead, columns were placed close together to support the heavy stone above. Brightly painted and elaborately carved, the columns often mimicked palms, papyrus plants, and other plant forms. Over the centuries, at least thirty distinct column styles evolved.

Influences of Egyptian Architecture. Archaeological discoveries in Egypt reawakened an interest in the ancient temples and monuments. Egyptian Revival architecture became fashionable during the 1800s. In the early 1900s, the discovery of King Tut's tomb stirred a fascination for Egyptian artifacts and the rise of Art Deco architecture.

Text 4

ANCIENT GREECE AND ROME

About.com Guide

The classical architecture of ancient Greece and Rome has shaped the way we built today.

From the rise of ancient Greece until the fall of the Roman empire, great buildings were constructed according to precise rules. The Roman architect Marcus Vitruvius, who lived during first century BC, believed that builders should use mathematical principles when constructing temples. 'For without symmetry and proportion no temple can have a regular plan,' Vitruvius wrote in his famous *Ten Books on Architecture*. In his writings, Marcus Vitruvius introduced the Classical orders, which defined column styles and entablature designs used in Classical architecture. The earliest Classical orders were Doric, Ionic, and Corinthian.

The Doric column was first developed in Greece and it was used for great temples, including the famous Parthenon in Athens. Simple Ionic columns were used for smaller temples and building interiors.

When Greece was at the height of its power in Europe and Asia, the empire built elaborate temples and secular buildings with Ionic and Corinthian columns.

The Romans borrowed heavily from the earlier Greek and Hellenistic styles, but their buildings were more highly ornamented. They used Corinthian and composite style columns along with decorative brackets. The invention of concrete allowed the Romans to build arches, vaults, and domes. A famous example of Roman architecture is the Roman Colosseum.

Text 5

URBAN ROOFTOP GARDENS
CREATING A CONTAINER GARDEN ON YOUR ROOF

By Marie Iannotti, About.com Guide

Rooftop gardens can be a small oasis in an urban setting. Gardening on a rooftop has a lot to recommend, but there are several things to consider about urban gardening, before you start planting. You'll need containers, soil, fertilizer, water, plants, tools.

Containers are one of the most expressive components of a rooftop garden. This is where you can express your style. Besides aesthetics, there are three things to keep in mind when choosing your rooftop containers are size, weight and material. You will need containers large enough for the roots of whatever plants you choose. The weight of the container becomes an issue if you are worried about how much your rooftop can support. Traditional materials, like clay, terra cotta and cement, can be quite heavy. Plastic pots and the newer synthetic containers are light enough to lift. At least consider self-watering pots (containers with water reservoirs.)

Soil is often the last thing to interest a new gardener, but it is the most important part of the garden. Good soil means healthy plants and less work for you. If you are growing in containers and raised beds, you will have the advantage of bringing in soil. There are several good potting mixes on the market or you can mix your own. Soil in containers needs to be replaced periodically, usually every spring. You can repot or simply top dress the existing soil.

Container plants require regular fertilizer. The larger a plant grows, and the more water it takes, the faster the soil is depleted. A water soluble fertilizer is the fastest way to get the nutrients to your plants, either by watering the soil and getting it directly to the roots, or by foliage feeding.

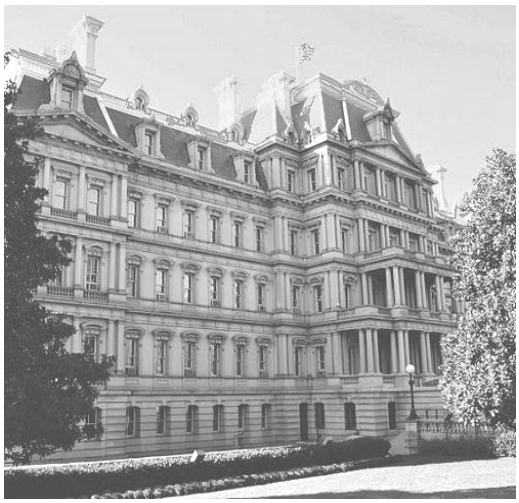
You can plant virtually anything in a container. Since most rooftop gardens get very hot during the day, drought tolerant plants are recommended. Some good rooftop plant choices would be plants with limited root systems, that don't need a lot of soil, like herbs and vegetables. Trees and shrubs require more soil and larger pots, but you need less of them to make an impact.

You'll need far less tools for a rooftop container garden than you would for a traditional ground level garden. You'll be doing a lot of scooping and filling. A trowel and perhaps a soil scoop, are the first tools you'll need. A small tarp will come in handy when you are emptying soil, to keep from making a mess. The only other essential tool would be a good pair of pruners, to prune and clean plants. Unfortunately, even a rooftop garden will be subject to pests and problems. Insects can fly, so you will still need to monitor your plants and try to catch problems while they're small. Keep your plants healthy and stress free by keeping them fed and watered, and you will limit their problems.

Text 6

MANSARD ROOF

About.com Guide



A mansard roof has two slopes on each of the four sides. The lower slope is so steep that it can look like a vertical wall with dormers. The upper slope has a low pitch and is not easily seen from the ground. A mansard roof has no gables.

The term "mansard" comes from the French architect François Mansart (1598 – 1666) of the Beaux Arts School of Architecture in Paris, France. Mansart revived interest in this roofing style, which had been characteristic of French Renaissance architecture, and was used for portions of the Louvre.

Another revival of the mansard roof occurred in the 1850s, when Paris was rebuilt by Napoleon III. The style became associated with this era, and the term Second Empire is often used to describe any building with a mansard roof.

Mansard roofs were considered especially practical because they allowed usable living quarters to be placed in the attic. For this reason, older buildings were often remodeled with mansard roofs. In the United States, Second Empire - or Mansard - was a Victorian style, popular from the 1860s through the 1880s.

Today, mansard style roofs are occasionally used one- and two-story apartment buildings, restaurants, and Neo-eclectic houses.

Text 7

COMMERCIAL BRICK FLOORING APPLICATIONS

About.com Guide

There are a number of commercial locations where brick flooring is an appropriate choice. It is durable, easy to maintain, and long lasting, so it is a relatively economical flooring material. However it is also very hard, and is susceptible to water damage if it is not properly installed. It is also quite heavy, limiting the areas that it can be used in to some extent.

Brick flooring is appropriate in both exterior and interior spaces. Its low maintenance also makes it popular in entryways and hallways. Its weight limits its installation to first floor applications, but by installing it near

doors and exits you can connect the outside style of the space to the interior design.

You want to avoid using brick in spaces where you need quiet such as schools and hospitals. It is fine in exterior areas, but when used indoors you will be able to hear every click of a high heel tapping against the material.

Brick is also often used in lobbies. There the ability to use colored bricks in patterns, or even to create mosaic emblems, allows companies and corporations to make a powerful and durable statement.

Another popular space for brick floors is in commercial kitchens. Easy to clean, stain and slip resistant, and featuring a variety of attractive earth tone colors, brick floors will often pair with brick ovens and other features in the space to create an integrated look.

Text 8

WHAT'S THE MOST IMPORTANT IN YOUR FLOOR?

About.com Guide

People make flooring choices based on a variety of considerations. Some people want a great value, others are interested in durability, while still others are looking for something that is easy to maintain and care for.

Generally the function of the location will focus and guide the choices you make. Public space requires floors that can stand up to heavy traffic. Bathrooms need floors that can handle water and stains. Meanwhile a bedroom is relatively low use, allowing you to focus more on characteristics such as comfort or appearance.

While the location will limit your flooring choices, your final decision will also be based largely on personal taste. Some people prefer a more rustic look, while others want something sharp and sleek from their floors. Some people are going to be more interested in bright vibrant colors, while still others are going to have ecological flooring concerns.

In a retail flooring store you will often see samples of different materials that you can look at and get a sense for. The problem is that you cannot actually see those materials used in the actual physical space. That makes it difficult to match up colors in the floor, with that found in other elements in the room.

The best way to accommodate this is to try and look at as many pictures of actual flooring installations as you possibly can. You can browse online photo galleries, including Flickr and other photo sharing sources, in order to see a vast array of pictures of interior and exterior flooring options.

Text 9

THE BEST ROOMS FOR VINYL FLOORING

About.com Guide

Invented in the 1930's, vinyl flooring first made an impact on the architectural world in the years following World War Two. By the 1950's it was a major competitor against other resilient options, and had all but usurped linoleum's position as a low cost water resistant flooring option.

Vinyl is a versatile flooring material that can be used in a variety of locations. But what is the absolute best place for installing a vinyl floor?

Many commercial applications use vinyl flooring because it is resilient, durable, and easy to clean. Hospitals and schools also tend to use it because it is both water resistant, and quiet to walk on.

In a residential home vinyl is probably most often used in the kitchen. In this high moisture space vinyl shines, resisting stains and water damage better than most other flooring materials out there.

Vinyl is also very popular in bathrooms, where its water resistant abilities shine as well. Bathroom vinyl floors should be textured however, to ensure that the room is not a slipping hazard.

Some people choose to install vinyl in a children's bedroom or in playrooms. While this is a good idea as far as ease of cleaning and maintenance, it might actually be unhealthy for the kids. That is because some vinyl floor materials release VOC's or volatile organic chemicals into the air. These can trigger respiratory problems and allergic reactions, especially in small children.

If a vinyl floor catches fire it will release toxic chemicals into the air. For this reason it is not recommended for commercial kitchen applications or any place where fire is a constant hazard.

Vinyl flooring is not biodegradable and does not break down naturally into the environment in a short period of time.

What rooms do you have vinyl installed in? Where would you recommend it be used in the home? Would you recommend it at all?

Text 10

MICHELANGELO – THE SISTINE CHAPEL CEILING

by Shelley Esaak, About.com Guide

Julius, however, was adamant that Michelangelo – and no other - should paint the chapel ceiling. What Julius wanted, he usually got. So Michelangelo painted the chapel ceiling. It was about 40 meters (131 feet) long by 13 meters (43 feet) wide.

The main panels down the center depict scenes from the Book of Genesis, from the Creation, to the Fall, to shortly after Noah's deluge. Adjacent to each of these scenes, on either side, are immense portraits of prophets and sibyls who foretold the coming of the Messiah. Along the bottoms of these run spandrels and lunettes containing the ancestors of Jesus and stories of tragedy in ancient Israel. Scattered throughout are smaller figures, cherubs and nudes. All told there are more than 300 painted figures on the ceiling.

It took Michelangelo a bit over four years, from July of 1508 to October of 1512. He intended to (and did) work in fresco, the most difficult method, and one which only true masters undertook. In addition to making initial blunders in that area, he also had to learn some hard techniques in perspective.

However, ultimately it wasn't Michelangelo's fault that the ceiling took four years. The work suffered numerous setbacks, such as mold and miserable, damp weather that disallowed plaster curing.

Michelangelo didn't lay on his back to paint the ceiling. He conceived and had constructed a unique scaffolding system. It was sturdy enough to hold workers and materials. The scaffolding curved at its top, mimicking the curvature of the ceiling's vault. Michelangelo often had to bend backwards and paint over his head - an awkward position which must've made his neck and back ache, his arms burn painfully and permanently screwed up his vision.

The complete design of the ceiling was Michelangelo. The sketches and cartoons for the frescoes were all of his hand, and Michelangelo executed the vast bulk of the actual painting by himself.

But he had many assistants; they mixed his paints, scrambled up and down ladders, and prepared the day's plaster. Occasionally, a talented assistant might be entrusted with a patch of sky, a bit of landscape, or a figure so small and minor it is barely seen from below. All of these were worked from his cartoons, though. And clever, temperamental Michelangelo hired and fired these assistants on such a regular basis that none of them could claim credit for any part of the ceiling.

Text 11

AMAZING WINDOWS AT THE OSLO OPERA HOUSE, NORWAY

by Jackie Craven, About.com Guide

The Oslo Opera House is the foundation of a sweeping urban renewal in the waterfront of Oslo. The main entrance to the Oslo Opera House is through a crevasse beneath the lowest portion of the sloping roof. Inside, the sense of height is breathtaking. Clusters of slim white columns angle up, branching toward the vaulting ceiling. Light floods through windows that soar as high as 15 meters.

With 1,100 rooms, including three performance spaces, Oslo Opera House has a total area of about 38,500 square meters (415,000 square feet).

The high glass windows offer public views of ballet rehearsals and workshops. On warm days, the marble-paved roof becomes an appealing site for picnics and sunbathing.

Designing windows 15 meters high poses special challenges. The enormous window panes at the Oslo Opera House needed support, but the architects wanted to minimize the use of columns and steel frames. To give the panes strength, glass fins, secured with small steel fittings, were sandwiched inside the windows.

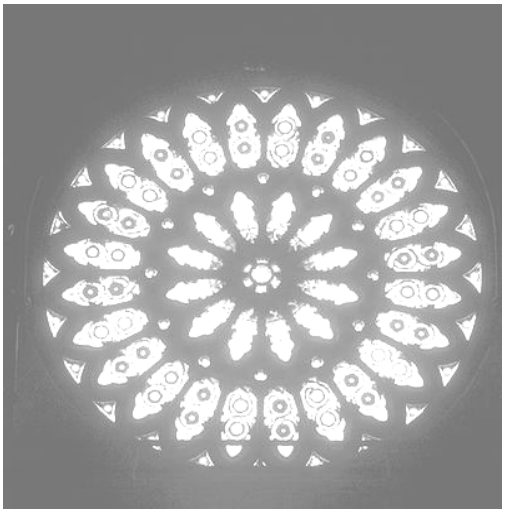
Also, for window panes this large, the glass itself needed to be especially strong. Thick glass tends to take on a green color. For better transparency, the architects selected extra clear glass manufactured with a low iron content.

On the southern façade of the Oslo Opera House, solar panels cover 300 square meters of the window surface. The solar panels help power the Opera House by generating an estimated 20 618 kilowatt hours of electricity a year.

Text 12

FANTASTIC FACTS ABOUT YORK MINSTER

by Ferne Arfin, About.com Guide



The Rose Window, a stained glass masterpiece high in the South Transept of York Minster, was nearly lost after lightning struck the Minster in the 1980s causing a severe fire in the Minster's wooden roof.

The stonework of the Rose Window was completed in the middle of the 13th century but the stained glass was added near the end of the 15th century to commemorate the end of the War of the Roses and honor the Tudor dynasty.

After fire destroyed the South Transept roof in 1984, inspection revealed that the stained glass in the Rose Window was severely cracked. The 73 panels, containing 7,000 pieces of stained glass had crazed into about 40,000 pieces! Miraculously it was all still in place.

Craftsmen secured the stained glass with adhesive film before removing it, one section at a time. Special adhesives - which would mimic the refractive properties of the glass - had to be researched and were specially developed by "3M" corporation before the window could be restored. Each restored section is sandwiched between layers of clear glass - the restorers jokingly refer to it as a Tudor sandwich - and the whole is further protected by more sheets of glass.

The stained glass restoration process, along with the restoration of the roof, took about four years and cost $4 million.

Text 13

JERUSALEM: WAILING WALL

About.com Guide

The "Wailing Wall", located in Jerusalem, is considered by both Jews and Muslims as a significant and holy site. In this image we have several women standing up against the wall, praying. Today there is a fence separating men from women - Orthodox Jewish men don't believe that it is acceptable to pray right alongside women. Men, of course, are given the much larger area for prayers.

For the Jews, it is one of the last remaining portions of the ancient Temple of Solomon (an outer wall, in fact). The original length is estimated to have been around 485 meters; today what remains is just 60 meters long. The largest stone is 45 feet long, 15 feet deep, 15 feet high, and has an estimated weight of more than one million pounds.

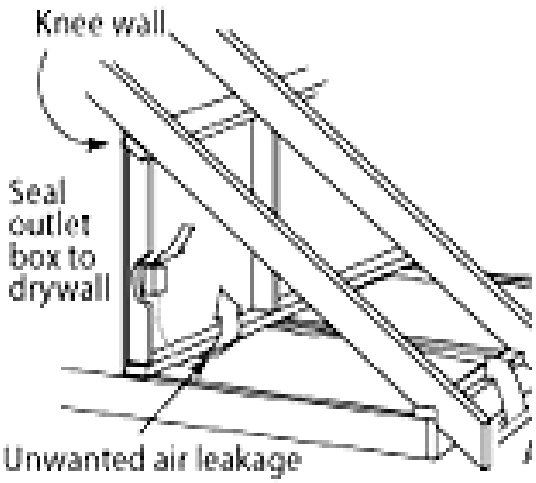
No one knows when it the Jewish tradition of offering prayers there, but it is believed that this portion of the Temple was not destroyed because the Shekhinah continues to reside there. Thus, praying there is like praying directly to God through the wall. Originally called simply the Western Wall, it acquired the name Wailing Wall because of the nature of the prayers said there. In addition to spoken prayers, it is also common for prayers to be written on slips are paper which are slipped into the cracks.

Control of the Wailing Wall is a contentious issue between Jews and Muslims in Jerusalem. When that portion of Jerusalem was under Arab control, it was difficult for Jews to visit the Wailing Wall to pray. Now that it is under Israeli control, both Muslims and Jews have access. However, there are many Jews who regard the reconstruction of Solomon's Temple as a primary goal and this would require the destruction of the mosques above.

Text 14

SHOULD I INSTALL A KNEE WALL?

by Lee Wallender, About.com Guide



Knee walls are not found in all attics, and they are not absolutely necessary. But they are awfully good to have.

Go in the attic or simply imagine yourself in the attic. If your attic is unfinished, it has a triangular shape. At the bottom points of the triangles, the rafters meet the top plates of the exterior walls.

Problems with that Space:

1. It is completely useless space, because of its odd shape and small size;
2. It is a point that may allow a significant amount of air infiltration;
3. If you are trying to build some usable space in there, it is very unsightly.

So, a knee wall is a short vertical wall roughly two or three feet high that "blocks in" that useless triangular space. The exact height of the knee wall is in your choice. The higher the knee wall, the greater amount of useful wall space you create in your finished attic. But you do so at the expense of floor space. So, it is a delicate balancing act.

The knee wall, by itself, can provide some degree of insulation against air infiltration from the outside. However, the knee wall is usually not enough provide all the insulation you need. To accomplish this, the U.S. Department of Energy recommends that you:

1. Insulate rafters;
2. Cover rafters with air barrier;
3. Caulk that barrier;
4. Caulk all other holes or cracks or stuff with fiberglass batt insulation or spray foam.

Text 15

RESUME FORMATS

by Dawn Rosenberg McKay, About.com Guide

Putting together a resume is very serious business. It is your introduction to a prospective employer and. If the employer likes what he or she sees on your resume, you will have the opportunity to make a second impression, on a job interview for example. If he or she is unimpressed, it could end up at the bottom of the pile or in the trash. Your first step is choosing the right resume format: chronological, functional or combination.

Chronological Resume

The chronological resume is probably the one with which most people are familiar. On it, work experience is listed in reverse chronological order (most recent job first). Of course this information goes beneath your name and contact information (address, phone numbers and email address) and objective. For each job, indicate the period of time during which you were employed. The name of your employer and then the employer's location should follow this. Below that you should give a description of each job. Follow your work history with a section on education that lists each degree, certificate, etc. you have earned.

This format is best to use when you are trying to show career growth. For example, if your most recent job is store manager, the one before that is department manager, and prior to that you were a sales clerk, you can show a history of upward progression. However, if your work history has been spotty or if it has been stagnant you shouldn't use a chronological resume. If you are changing careers, a chronological resume is not for you either as you will not be able to show a career trajectory.

Functional Resume

A functional resume is a good format to use if you are changing careers. Although you don't have an employment history in the field in which are seeking a new job, you do have skills you have obtained through other experiences, both paid and unpaid. These are called transferable skills and a functional resume allows you to highlight them.

This type of resume categorizes your job skills by function, emphasizing your abilities. Follow your name, contact information and objective with a section for each of the functions or abilities you want to highlight. Your related work experience goes beneath each section heading. For brevity's sake, try to keep to a maximum of three of four functions. For example you might have sections titled "Supervision and Management", "Accounting" and "Writing and Editing". Within the section titled "Writing and Editing" one of your items might be "Edited monthly newsletter to promote upcoming library events and workshops". Begin with the function on which you want to place the most emphasis. Choose the one that is most relevant to the job for which you are applying. Target your resume to different employers by changing your objective as well as the order in which you list the functions. The one downside of a functional resume is that it doesn't provide a job history. This may arouse the suspicions of the person reviewing your resume who will surely want to know something about your employment history. A combination resume will solve this problem.

Combination Resume

A combination resume is exactly what it sounds like - it is a hybrid of a functional resume and a chronological one. This is a useful format if you are changing careers. You can also use the combination format if your work history includes only one place of employment, but you spent a significant amount of time there and your job duties were very diverse. It lets you stress the various skills you attained through that job.

The first item on a combination resume, after your name and address, should be your objective. Next come the sections describing your abilities or job functions. Follow the instructions for putting together a functional resume but keep your descriptions a shorter since you will have to leave room for the second part of this format: "Employment Experience" or "Work History". This part resembles a chronological resume. List employers and dates here, but do not offer further descriptions as you have already described your abilities in the functional part of this resume.

Using the resume format that is best suited for your background and job search objectives gives you the best opportunity to tell a prospective employer about yourself and how you will best serve his or her needs. If you have an extensive work history that does a good job of showing off your attributes, go with a chronological resume. Use a functional resume to show off your abilities while de-emphasizing a limited work history, or use a combination resume to show off your abilities and a bit more extensive but still limited work history.

Text 16

DESIGN AND BUILD CONTRACTS

Recently a different business model has become more popular. Many owners – particularly government agencies have let out contracts which are known as Design-Build contracts. In this type of contract, the construction team is known as the design-builder. They are responsible for taking a concept developed by the owner, completing the detailed design, and then pending the owner's approval on the design, they can proceed with construction. Virtual Design and Construction technology has enabled much of the ability of contractors to maintain tight construction time

There are two main advantages to using a design-build contract. First, the construction team is motivated to work with the design team to develop a design with constructability in mind. In that way it is possible for the team to creatively find ways to reduce construction costs without reducing the function of the final product. The owner can expect a reduced price due to the increased constructability of the design.

The other major advantage involves the schedule. Many projects are given out with an extremely tight time frame. By letting out the contract as a design-build contract, the contractor is established, and early mobilization and construction activities are able to proceed concurrently with the design. Under a traditional contract, construction cannot begin until after the design is finished, the project is bid and awarded, and the team can mobilize. This type of contract can take months off the finish date of a project.

The major problem with design-build contracts is the inherent conflict of interest. In a standard contract the designer is responsible to the owner to review the work of the builder to be sure the products and methods meet specifications and codes. The builder as a construction professional experienced working with many designers is attuned to picking up design flaws which would go uncaught or unmentioned when builder is also a designer. The owner may be more likely to get a building that is over-designed in order to increase costs and profits for the design-builder, or built with lesser grade products to maximize profits. If time is of the essence, a design and construction contracts can be awarded separately, with bidding taking place on preliminary plans in a not-to-exceed contract in lieu of a single firm design-build contract.

Text 17

TECHNOLOGY OPENS ANCIENT DOORS

by John Noble Wilford

Archeologists, heeding the message of the magnetometer, dug into the rocky slope of Egypt's Valley of the Kings and uncovered steps carved out of the limestone. The steps descended to a stone portal and through that into a dark passage and to the discovery of a 3,300-year-old tomb that could yield fascinating treasures and new insights into the long reign of Ramses II.

The discovery, made last month and reported last week, could be one of the most important in Egyptology in many years, according to scholars. The last major find in the area, and one of the most spectacular ever, was the discovery in 1922 of the untouched tomb of the young Tutankhamen, better known as King Tut.

Finding the tomb was a reassuring demonstration of the capabilities of modern remote-sensing technology, such as sonar, radar and magnetometry, to save time and expand the range of archeologists in the field. French and Japanese scientists have reported encouraging results using similar techniques in search of hidden chambers in the Pyramids and the Sphinx at Giza.

Preliminary analysis at the new dig site indicates that the underground chambers were probably the burial place of several of Ramses' many sons. Although the huge central room is badly damaged and filled almost to the ceiling with rubble, its size and design - 100 feet on all sides and supported by 16 large pillars - suggests to archeologists the grandeur of the 66-year reign of Ramses II, who ruled from 1290 to 1224 B.C. This room is one of the largest in any of the known burial places set in the cliffs above the alluvial plain west of the Nile.

Archeologists hope that the nether chambers of the tomb, beyond three stone doors and as yet unexplored, have escaped the ravages of time and vandals and so could still hold well-preserved artifacts of the ancient Egyptian civilization in its heyday.

The tomb was found by a survey party led by Kent R. Weeks, an associate professor of Egyptian archeology at the University of California at Berkeley. Dr. Weeks is engaged in a long-term project, now in its eighth year, to survey ancient Thebes, on the Nile 500 miles south of Cairo, and prepare a detailed map and inventory of the temples, monuments, tombs and other structures.

On the east side of the river stand the ruins of Karnak and Luxor. Across the river is the necropolis that includes the Valley of the Kings, the burial ground for Egyptian monarchs and nobles who lived between 1600 B.C. and 1000 B.C.

ПРИЛОЖЕНИЕ 3

СПИСОК ВЫРАЖЕНИЙ, РЕКОМЕНДУЕМЫХ ДЛЯ НАПИСАНИЯ АННОТАЦИЙ НА АНГЛИЙСКОМ ЯЗЫКЕ

Английское выражение	Русский перевод
It is described in short …	Кратко описывается …
It is introduced …	Вводится …
It is shown that …	Показано, что …
It is given …	Даётся (предлагается) …
It is dealt with …	Рассматривается …
It is provided for …	Обеспечивается …
It is designed for …	Предназначен для …
It is examined, investigated …	Исследуется …
It is analyzed …	Анализируется …
It is formulated …	Формулируется …
The need is stressed to employ…	Подчёркивается необходимость использования…
Attention is drawn to…	Обращается внимание на …
Data are given about…	Приведены данные о …
Attempts are made to analyze, formulate …	Делаются попытки проанализировать, сформулировать …
Conclusions are drawn…	Делаются выводы …
Recommendations are given …	Даны рекомендации …

ПРИЛОЖЕНИЕ 4

СПИСОК ВЫРАЖЕНИЙ, РЕКОМЕНДУЕМЫХ ДЛЯ НАПИСАНИЯ РЕФЕРАТОВ НА АНГЛИЙСКОМ ЯЗЫКЕ

1. The article (text) is headlined …
2. The author of the article is …
3. The article is written by …
4. It is (was) published in …
5. Special emphasis is laid on …
6. The main idea of the article (text) is …
7. The article is about …
8. The article is devoted to …
9. The article deals with …
10. The article touches upon …
11. The article presents some results which illustrate …
12. The purpose of the article (text) is to give the reader some information on…; … is to compare (to determine) …
13. The aim of the article is to provide the reader with some data on…
14. The author starts by telling the readers (about, that) …
15. The author writes (states, stresses, thinks, points out) that…
16. The article describes …
17. According to the article (text) …
18. Further the author reports (says) that …
19. The article is (can be) divided into 4 (5-7) parts.
20. The first part deals with …
21. The second part is about …
22. The third part touches upon …
23. The fourth part of the article includes the fact on …
24. In conclusion the article reads …
25. The author comes to the conclusion that …

ПРИЛОЖЕНИЕ 5

KEYS TO THE EXERCISES

UNIT 1

p. 7, ex. 4. (кроссворд)

По вертикали:	По горизонтали:
1. sapling	1. shelter
2. read	5. ridge
3. pole	6. granary
4. bury	7. dome

p. 15, ex. 1. (грамматический тест)

1. Types of buildings **are classified** according to the role in the community.
2. They **are planning** to construct a new supermarket near our house.
3. The site for the new factory **has not been decided** yet.
4. Steel **varies** considerably in its microstructure.
5. Some floor materials **are maintained** very easily.
6. First they **laid** the foundation, and then they **built** the walls.
7. The house **was renovated** by the current owners to provide modern living.
8. Great technological advances **have been made** in plumbing.
9. Builders often **finish** surfaces in plastic materials.
10. I **am doing** a civil engineering course at the university, which **is** very hard, but I am really enjoying it.

p. 16, ex. 2. (лексический тест)

1. Your home is your sacred **dwelling** place.
2. Twice destroyed and twice rebuilt, the Pantheon in Rome evolved into a **domed** building so famous that it inspired architects for 2000 thousand years.
3. Most **thatch** used in England for roofing is made of long wheat straw grown especially for the purpose.

UNIT 2

p. 25, ex. 1. (грамматический тест)

1. It is known that an earthquake **moves** the arch and **causes** tensile forces in it.
2. They said that the new system in the university canteen **had been** a welcome innovation.

3. He reported that beams **were** very important members in many structures.

4. We knew that roofers **would work** outdoors and at heights, and **use** ladders the next day.

5. The master informed us that the metal structures of the building **would be assembled** on the site the following week.

6. The engineer said that it was necessary to place trusses to carry the ends of the beam.

7. We were said that a handsome mansion **had been erected** upon a new site in 1998.

8. She says that a large studio apartment in this block **is located** within walking distance to the tube.

9. He said that cinder bricks **had** excellent properties and a low price.

10. They informed us that in some localities water **was** available in unlimited quantities.

p. 25, ex. 2. (лексический тест)

1. A **beam** from the destroyed Twin Towers will be displayed inside the National 9/11 Museum.

2. Builders in ancient Egypt did not use **load**-bearing arches.

3. Since 1928, Chinese archeologists have unearthed extensive architectural **foundations**, tombs, thousands of bronze vessels.

UNIT 3

p. 27, ex. 4. (кроссворд)

По вертикали:	По горизонтали:
1. uppermost	1. precipitation
4. slope	5. slate
5. covering	6. ridge
8. dome	7. Shingle

p. 27, ex. 5.

1. steel girders	6. leaking
2. dome	7. covering
3. shingles	8. paint
4. concrete	9. hipped roof
5. ridge	10. cathedral dome

p. 28, ex. 6.

1. steel girders	6. a leaky roof
2. dome's construction	7. covering
3. asphalt shingle	8. rigid
4. reinforced concrete	9. dome-shaped
5. ridge	10. cathedral dome

p. 36, ex. 2.

1. to make	6. to suit
2. to counteract	7. to fall
3. to recycle	8. to commemorate
4. to carry	9. to maintain
5. to keep out	10. to change

p. 36, ex. 1. (грамматический тест)

1. People in the world's coldest climates prefer to live in timber-framed houses. *(часть составного глагольного сказуемого)*
2. Many new blocks of flats are to be built according to the new development plan. *(часть составного глагольного сказуемого)*
3. Everything changed, for the first time it was possible to produce large quantities of a product cheap enough for most people. *(часть составного глагольного сказуемого)*
4. They wanted to create a style that reflected the old ideals of craftsmanship with artistic form, shape and colour. *(часть составного глагольного сказуемого)*
5. To create and optimize the process, NASA designed bio-electromechanical devices. *(обстоятельство)*
6. Many different types of structures can be built using reinforced concrete including slabs, beams, walls, foundations and more. *(часть составного глагольного сказуемого)*
7. Cracking can allow moisture to penetrate and corrode the reinforcement. *(часть составного глагольного сказуемого, прямое дополнение)*
8. This type of cement is designed to be particularly resistant to a sulfate attack. *(обстоятельство)*
9. To build means to construct something by putting parts or material together. *(подлежащее, часть составного глагольного сказуемого)*
10. In 1861, William Morris started up a design company to produce handcrafted furniture. *(обстоятельство)*

p. 37, ex. 2. (лексический тест)

1. Materials like **adobe**, cob and straw are economical, energy-saving, environmentally-friendly, and sustainable.
2. I recommend replacing the **shingles** on your roof with Spanish roof tile.
3. A **shed roof** sloping in just one direction is the least expensive.

UNIT 4

p. 38, ex. 3.

1. refer
2. finished
3. plumbing
4. wiring
5. hardwood floor
6. grease
7. dependable
8. treat

p. 45, ex. 1. (грамматический тест)

1. Roof means the exterior surface and its **supporting** structures on the top of a building.
2. The Great Pyramid of Khufu was built around 2560 B.C., **taking** about 20 years to complete.
3. To construct a safe and effective green roof isn't always cheap, **depending** on the building and its **existing** roof structure.
4. If your **existing** driveway is in good condition and is not severely cracked, the hot-mix asphalt can be laid on the top of your driveway.
5. **An ill-fitting** mask can leak and be dangerous, only **offering** the illusion of protection.
6. When **applying** clears, the biggest mistake is to apply too much.
7. There are a number of things to consider when **selecting** paint colors for interior and exterior painting.
8. While **designing** the colour scheme, it is important to avoid the colour that stands alone from the other colours.
9. **A sagging** and **bubbling** ceiling is a sign that water is leaking onto and soaking the ceiling.
10. **Using** a putty knife, score the hairline crack to open its edges.

p. 46, ex. 2. (лексический тест)

1. The plumbing in a building consists of the water and drainage pipes, baths, and toilets in it.
2. Is it possible to install ceramic tile directly onto plywood subfloor.
3. That tedious journey bored me to death.

UNIT 5

p. 55, ex. 1. (грамматический тест)

1. Vinyl siding is the most fragile of all siding materials and besides melting when **exposed** to extreme heat, it will become brittle in cold weather.
2. **Insulated** vinyl siding is an alternative to costly siding materials.
3. **Made** in concrete, brick and wood a load bearing wall bears a load by transferring its weight and loads to the foundation structure.
4. Mortar mixes are classified **based** on compressive strength and their bonding properties and flexibility.
5. A type N mortar is described as a general purpose mortar mix **used** in exterior and interior load-bearing installations.
6. Mortar mix type N is also **the preferred** mix for soft stone masonry.
7. Installing a brick veneer onto your building's exterior requires special skills and it is usually performed by **experienced** brick mason.
8. **Insulated** concrete masonry units are made of identical materials as conventional concrete blocks.
9. The company offers a complete turn-key service in which the bridge design process will meet **the expected** design criteria.
10. York Bridge Concepts offers extremely capable craftsmen, **equipped** with all the tools and equipment **needed** to install all bridge components.

p. 55, ex. 2. (лексический тест)

1. These are basic tools you will need for putting up **fencing** on your farm.
2. More than 40 artists created the statues, sculptures, and **murals**.
3. In its glory Babylon was surrounded by thick **masonry** walls ornamented with images of the ancient god of Marduk.

UNIT 6

p. 57, ex. 4. (кроссворд)

По вертикали:	По горизонтали:
1. shutter	5. chest
2. fin	6. afterlife
3. hinge	7. knee
4. lever	

p. 58, ex. 6.

1. Funerary art may serve many cultural functions.

2. Saloon doors also are known as cafe doors that only extend from knee-level to chest-level.

3. Two objects connected by a hinge rotate relatively each other about a fixed axis of rotation.

4. The initial purpose of a Dutch door was to keep children inside while admitting light and air in.

5. The Boyana Church represents one of, the well-preserved monuments of Eastern European mediaeval art.

6. A window shutter is a solid and stable window covering consisting of a frame of vertical stiles and horizontal rails.

7. The high sills can make entry and exit harder.

8. An architrave is the beam that rests on the capitals of the columns.

9. Damage might be done to the wall without the doorstop.

10. Doors are generally used to separate interior spaces.

p. 62, ex. 2.

1. movable
2. hollow-core wood door
3. vertical
4. American West
5. architecture
6. weak structure
7. to improve
8. architect
9. dependable
10. consists of

p. 65, ex. 1. (грамматический тест)

1. If you chose the right feng shui colour for the area, it would change the relationship between the two directly aligned doors.

2. If there was enough space in between the directly aligned doors, you maight create a conversation area in the direct pathway.

3. If you used properly feng shui colours, they would bring the desired feng shui energy into your home.

4. If you had a barn, a well-built set of Dutch-style barn doors would provide unique functionality.

5. If you hinged barn doors properly, they would be durable enough to stand for years.

6. If a bedroom, for example, was located directly over a family room, the sound from a television would travel to the second floor.

7. If you were upstairs and want a drink of water, you would need to go downstairs to reach the kitchen.

8. If a door was not latching properly, the strike plate would need to be realigned.

9. If you changed the flooring, you would need to trim the bottom of the door.

10. If you needed to replace the brackets, you would fill the old screw holes in the door frame with wood putty.

p. 66, ex. 2. (лексический тест)

1. Before fitting the **hinges** on the doors, mark the hinge position.
2. A **doorstop** keeps a door open or stops it from banging against a wall.
3. **False doors** were a form of stele which developed by the 3rd Dynasty from earlier tomb slabs.

UNIT 7

p. 68, ex. 5.

1. Every home has windows and doors installed to move in and out and for ventilation purpose.
2. Materials for the window frame could be wood or metal with the pane made of thick glass.
3. Small window openings were sealed with primitive wooden shutters that provided protection against rain, heat, cold and insects.
4. Louvered wooden shutters provided insulation and light control, and when pointed downward they could repel rainwater.
5. A spacer is the component used in window manufacturing that separates the two panes of glass in an insulating glass system.
6. One of the benefits of plastic windows is very little maintenance that the frames require.
7. Plastic windows are a cost effective alternative to expensive wood windows.
8. If glass sandwich is broken, glass fragments don't smash in all directions but remain on the flexible layer.
9. Insulated glazing unit is flooded with mastic to prevent penetration of dust and moisture.
10. In England glass was used in the windows of ordinary homes only in the early 17th century.

p. 75, ex. 1. (грамматический тест)

1. Sash windows **are formed** by four pieces of wood that create a frame around the glass.
2. If you have **never replaced** the glass before, it **will be** easier to remove the whole window.
3. Many older casement windows simply **have** an arm with several holes along its length.
4. Window placement also affects the amount of heat **absorbed**.

5. In warm climates, windows with a similar coating reflect the heat back outside, **preventing** it from settling in the house.

6. Wood flooring first **came** on the scene during the baroque period, around the late 1600s.

7. Exotic wood **is** sometimes **harvested** from forests where conditions of the local ecology and population **are not taken** into account.

8. Laminate, which mimics the traditional wood floor, **has become** a popular option.

9. Tile is often made from clay **mined** throughout the United States.

10. **To avoid** allergic reactions to dust mites, carpets must be vacuumed regularly.

p. 75, ex. 2. (лексический тест)

1. Windows are usually **glazed** in some other transparent material like float glass.

2. Due to the historic unavailability of large **glass panes**, the «lattice window» was the prevailing style of window until the 20th century.

3. A **leaf** is the hinged part or flap of a door, shutter, or table.

UNIT 8

p. 77, ex. 5.

1. alteration
2. repairs
3. to pave
4. real property
5. completion
6. ensure
7. employee
8. put in commission
9. developer
10. surveyor

p. 80, ex. 2.

1. alteration
2. a unique team
3. real
4. owner
5. component
6. to require
7. by
8. separate
9. architecture
10. beginning

p. 87, ex. 1. (лексический тест)

1. The repair of our roof cost one hundred dollars.

2. A residential area contains houses rather than offices or factories.

3. The erection of temporary fencing was necessary to protect hedges under repair.

ПРИЛОЖЕНИЕ 6

ТЕЗАУРУС

Aa

acoustic performance rating – допустимое значение акустической характеристики
adhesive [əd'hi:sɪv] – клеящий материал, липкий
adjacent [ə'ʤeɪs(ə)nt] – смежный
adobe – сырец, кирпич воздушной сушки
afterlife – загробная жизнь
the afterlife of the pharaoh – загробная жизнь фараона
alteration [ˌɔ:lt(ə)'reɪʃ(ə)n] (*syn*. rebuilding) – перестройка, реконструкция
to be under alteration – быть в процессе реконструкции / перестройки
initial project alteration – изменение первоначального проекта
appeal – привлекательность
architectural appeal – погребальная архитектура
apply – применять (к чему-либо)
to apply the new method – применять новые методы
architrave ['ɑ:kɪtreɪv] – архитрав (элемент ордера)
attach – прикрепить

Bb

bark – кора
a tree bark – кора дерева
barn – амбар, сарай
be torn down – быть снесённым (о стене)
beam [bi:m] – балка
bumpy – неровный
bundle ['bʌndl] – вязанка, пучок, связка
a bundle of nerves – комок нервов
bury ['berɪ] – закапывать, засыпать
to bury the columns into the ground – закапывать колонны в землю

Cc

cast iron – чугун
chest – грудная клетка
chest pain – грудная боль
cob – обмазка из глины с соломой
completion [kəm'pli:ʃ(ə)n] – достройка
completion of a building – достройка здания
comprise – включать в себя, содержать
concrete masonry – бетонная кладка, кладка из бетонных блоков
construction manager – руководитель строительных работ
cost effective – окупающийся
covering ['kʌv(ə)rɪŋ] – покрытие
a covering of the roof – кровля, кровельный настил
cement covering –цементное покрытие, цементная стяжка, цементная штукатурка

Dd

daub [dɔ:b] – обмазывать
delineate [dɪ'lɪnɪeɪt] – очерчивать, делать набросок
delineate a building – схематически изобразить здание

demolition (*syn*. destruction) – разрушение, снос

to demolish an old house – снести старое здание

dependable – надёжный

a dependable design – надёжная конструкция проекта

detergent [dɪ'tɜːʤ(ə)nt] – моющее средство

developer – застройщик, проектная фирма, разработчик

dike – дамба

to build a dike – соорудить дамбу

discerning – проницательный

dome – купол, свод

domed – куполообразный, купольный

domed mountains – куполообразные горы

door – дверь

door frame – дверная коробка

doorstop – останов двери, ограничитель открывания двери, доводчик

Dutch door – голландская дверь (с полотном, разделённым по горизонтали две половины)

false door – глухая дверь

louvre door ['luːvə] – дверь с жалюзи

drain – дренажная труба

a house drain – сточная труба здания

dry-laid stone – сухая каменная кладка

a dry-laid stone wall – стена из сухой каменной кладки

dwelling – жилище, жильё, место жительства

a private dwelling – частное жильё

Ee

employee – служащий, работающий по найму

enhance – увеличивать, усиливать, улучшать

ensure – обеспечивать, гарантировать

ensure the independence – гарантировать независимость

ensure project success – обеспечить успех проекта

erection (*syn*. construction) – строительство, возведение, сооружение

bridge erection – строительство моста

an erecting crane – монтажный кран

to be erected of wood – быть возведенным из дерева

Ff

facade [fə'sɑːd] – фасад

facade architecture – архитектура фасада

facade painting unit – агрегат для окраски фасадов зданий

fence – ограда, забор

to build a fence – возвести ограду

a fence around smth. – ограда вокруг чего-либо

fibre ['faɪbə] – волокно

fibre cement – волокнистый цемент

a fibre cement sheeting – лист волокнистого цемента

fibre board – фибровый картон

fin – ребро

movable wooden fins – подвижные деревянные рёбра

finished surface – окончательно обработанная поверхность
flashing – водослив, гидроизоляция в местах примыкания строительных элементов (в швах)
flat – плоский, ровный
floor – пол
hardwood floors – полы из твёрдых пород древесины
floating floor – фальшпол, плавающий пол, перекрытие раздельного типа (с прослойкой звукоизоляции)
softwood floors – полы из мягких пород древесины
for-profit – коммерческий
for-profit business – коммерческое предприятие
for-profit organization – торговая / коммерческая организация
foundation – фундамент, основание
foundation pit – котлован
foundation wall – фундаментная стена
mat foundation – фундамент в виде сплошной подушки, плиты
raft foundation – ростверк, сплошной фундамент
frost line – максимальная глубина промерзания
funerary ['fju:n(ə)rərɪ] – похоронный
funerary architecture – погребальная архитектура

Gg

gabled ['geɪbld] – остроконечный
glass – стекло, стеклить
float glass – полированное листовое стекло
glass pane – оконное стекло
multiple glass pane – стеклопакет
glass sandwich – триплекс
leaded glass – оконное стекло в свинцовой оправе
granary ['græn(ə)rɪ] – амбар, сарай, зернохранилище
glaze – застеклять, стеклить
double glazing – двойное остекление
grease – жир
spot of grease – жирное пятно
gypsum plasterboard ['ʤɪpsəm] – гипсо-волокнистый лист (ГВЛ)

Hh

hide – кожа, шкура
to have smb.'s hide – содрать с кого-либо шкуру, наказать
hinge – дверная петля
hollow ['hɔləu] – пустотелый
hollow-core – полая деталь
hollow-core door – пустотелая щитовая дверь
hollow-core construction – полая конструкция, полый элемент
hut [hʌt] – лачуга, хижина, шалаш
a bamboo hut – бамбуковая (соломенная) хижина

Ii

ill-fitting – неподходящий, неправильный
inclement [ɪn'kleмənt] – суровый
inclination [ˌɪnklɪ'neɪʃ(ə)n] – уклон, скат
an inclination of the roof – уклон ската крыши; крутизна крыши
individual – человек, личность
the right of the individuals – права людей

insulation – изоляция
sound insulation – звукоизоляция
air insulation – воздушная изоляция
interact – взаимодействовать
to interact with each other at a certain temperature – взаимодействовать друг с другом при определённой температуре
intertwine [ˌɪntə'twaɪn] – переплетать, сплетать, закручивать
to intertwine all these aspects – переплести все аспекты
intruder – взламыватель, злоумышленник, нарушитель

Jj

jack – гнездо, розетка
telephone jack – телефонное гнездо
jamb [ʤæm] – стойка дверной коробки
head jamb – верхняя обвязка дверной коробки, притолока
window jamb / jamb wall – откос оконного проема, косяк оконной коробки

Kk

knee [niː] – колено
knee by knee – рядом, касаясь друг друга

Ll

latch – запираться, закрываться (о двери, окне)
lateral stability ['læt(ə)r(ə)l stə'bɪlətɪ] – поперечная устойчивость
lay out – раскладывать
layer – слой
an upper layer – верхний слой
leaf – створка
door leaf – дверное полотно
leak – утечка, течь
an air leak – фильтрация воздуха, утечка воздуха
a heat leak – утечка тепла
lean – наклоняться, склонять
levee ['levɪ] – речной причал
lever – рукоятка
linseed – льняное семя
lintel – перемычка двери
load – груз, нагрузка
loose – слабый, неплотный
a loose flooring – неплотное покрытие пола
to loosen – ослаблять, развязывать
Luxor ['lʌksɔː] – Луксор (город в Египте)

Mm

maintain – осуществлять техническое обслуживание
maintain the road – обслуживать дорогу
membrane surface – кровельная поверхность
molding – декоративные отливки, формовка
decorative molding – декоративное лепное украшение
molding fillet – штапик, горбылёк
mortuary ['mɔːʧu(ə)rɪ] – погребальный
moss – мох, торфяник
mount – монтировать, крепить
mounted – смонтированный, установленный, закреплённый
mountable masonry – каменная или кирпичная кладка

muntin [ˈmʌntɪn] (*syn*. sash bar) – горбылёк оконного переплета
mural – фреска, стена
a mural painting – фресковая живопись

Nn

nail set – добойник
noise – шум, грохот, помехи
to abate noise – ослаблять уровень шума
to absorb noise – поглощать шум
to attenuate noise – ослаблять шум
to control noise – заглушать шум
to meter noise – измерять уровень шума
noise testing – шумовой контроль

Oo

opaque [ə'peɪk] – непроницаемый, непрозрачный
an opaque wall – непроницаемая стена
outlet – штепсельная розетка

Pp

packed – плотный
a packed sand – плотный песок
passage – проход, прохождение
no passage – прохода нет
pave – мостить
a paved road – мощёная дорога
to pave the way to – прокладывать путь к чему-либо
to pave with tiles – покрывать черепицей, плитками
penetrate ['penɪtreɪt] – проникать внутрь, просачиваться
pile – свая, столб
bored pile – буронабивная свая
pivot – поворачивать, вертеть
to pivot on someone's heel(s) – повернуться кругом
plumbing ['plʌmɪŋ] – водопроводная система
house plumbing – водопроводно-канализационная сеть здания
plumbing specialist – сантехник
plumber ['plʌmə] – 1) водопроводчик, 2) паяльщик
pole – столб, шест, кол
a concrete pole – бетонный столб
the ridge pole – коньковый брус
post – стойка
door post – дверная стойка
post and lintel method – каркасный метод, стоечно-балочный метод
pour – бетонирование, укладывание бетона
to be poured [pɔːd] – быть застывшим
poured concrete – наливной бетон
precipitation [prɪˌsɪpɪ'teɪʃ(ə)n] – атмосферные осадки
acid precipitation – кислотные осадки
preserve – сохранить
to preserve for the future – сохранить на будущее
pressure-treat ['preʃə-triːt] – подвергать обработке давлением
project [prə'ʤekt] – выдаваться, выступать
prone – предрасположенный
protrude – выдаваться

puncture ['pʌŋkʧə] – прокол, дырка, пробивание
put in commission – сдать в эксплуатацию

Rr

rafter – стропило
to rafter – ставить стропила
real property (*syn*. real estate) – недвижимость
recessed – углублённый, утопленный
reed – камыш, тростник, солома
to lay out the reed on the top – покрывать крышу тростником, соломой
refer – относиться, касаться, ссылаться
to be referred to 18th century – относиться к 18 веку
reimburse – возмещать, компенсировать, возвращать, покрывать (расходы)
reinforcement – арматура, укрепление, усиление
reinforcement steel [ˌri:ɪn'fɔ:smənt sti:l] – железная арматура
reinforced concrete beam – железобетонная балка
relate – родственный
related sciences – смежные науки
relevant ['reləvənt] – иметь отношение к чему-либо
repair – ремонт
a repairman – ремонтник, техник по ремонту, ремонтный работник
to be under repair – находиться в ремонте
in good repair – исправный, в исправном состоянии
residential [ˌrezɪ'den(t)ʃ(ə)l] – жилой
a residential area – жилой район
a residential construction industry – индустрия жилищного строительства
responsive [rɪ'spɔnsɪv] – реагирующий, восприимчивый
to be responsive to smth. – реагировать на что-либо
restrict – ограничивать, сужать
to restrict certain information – ограничить доступ к определённой информации
ridge [rɪʤ] – конёк, выступ
a roof ridge – конёк крыши
rigid – жёсткий
a rigid support for a tent – жёсткая опорная стойка для палатки
roof – крыша
flat roof – плоская крыша
gabled roof – остроконечная крыша
hipped roof – вальмовая четырехскатная крыша
sloped roof – скатная крыша
shed roof – односкатная крыша
ridge roof – двускатная крыша
high-pitched roof – крыша с крутыми скатами
roof deflection – прогиб кровли
roof mastic – кровельная мастика
roof pressure – давление кровли
roof slab – кровельная плита
slope of roof – уклон крыши
tile roof – черепичная кровля
verge of a roof – край крыши
false roof – ложная кровля
mansard roof – мансардная крыша
roofing felt – толь, рубероид

rotation – вращение

axial rotation – осевое вращение, вращение вокруг собственной оси

left rotation – левое вращение, вращение против часовой стрелки

Ss

sag – провисать, обвисать, прогибаться

sand – шлифовать

a sanded surface – отшлифованная поверхность

sapling – побег, отводок

made of small saplings – сделанный из молодых побегов

seal – герметично закрыть

settle – осаждаться

sheeting – листовой материал

shelter – кров, защита, прикрытие, приют

to afford / give / offer / provide shelter – давать приют

to seek shelter from smth. – искать убежище / укрытие от чего-либо

shingle – кровельная черепица

wooden shingles – деревянная черепица

metal shingles – металлическая черепица

shrink – давать усадку, усыхать, сжиматься (при охлаждении)

shutter – ставень

window shutters – оконные ставни

sill – нижняя обвязка дверной коробки, порог

single door – однопольная дверь

slat – планка, створка жалюзи

slats of glass – стеклянная створка жалюзи

slate – шифер

a roofing slate – кровельная плитка

slick – гладкий, блестящий

slope – скат, уклон

a slope of roof – скат крыши

steep slope – крутой откос

sod – дёрн

soil – грунт, почва, нанос

top soil – верхний растительный слой, дёрн

spacer – распорка

span – перекрывать (о крыше, арке), наводить (о мосте)

to span a river with a bridge – навести мост через реку

pivot span – разводной пролёт

spread footing – фундамент на естественном основании, ленточный фундамент

spruce up – украшать

stain – окрашивать

a stained glass – цветное стекло, витражное стекло

stained paper – обои, шпалеры, цветная бумага

steel girder – стальная балка

strength – 1) прочность, предел прочности, сопротивление, крепость, 2) сила, интенсивность 3) крепость, концентрация раствора

compressive strength – прочность на сжатие

strike plate – запорная планка дверного замка

stringent ['strɪnʤənt] – строгий

stringent requirements – строгие требования

structure – структура

internal structure – внутренняя структура

structural element – несущий элемент, часть здания
subfloor – накат, чёрный пол
surveyor [sə'veɪə] – строительный инспектор, землемер, топограф, геодезист
quantity surveyor – инженер-сметчик
swing – качать, раскачивать, размахивать
to swing from right to left – раскачиваться из стороны в сторону
to swing shut – захлопываться

Tt

tedious ['tiːdɪəs] – трудоёмкий, утомительный
tend – иметь тенденцию, склоняться к чему-либо
to tend to the same conclusion – склоняться к тому же решению
to tend to exaggerate – быть склонным к преувеличению
tension – напряжение
in tension – при напряжении
thatch [θætʃ] – солома, тростник (как материал для кровли)
a crude thatch – необработанный тростник
tile – крыть черепицей, выкладывать плитками
tile the walls – облицевать стены кафелем
tiling – облицовка плиткой
to fix tiles – закреплять плитки, черепицу
transfer – переносить, перемещать
transparent – прозрачный
trap – поглощать
a moisture trap – влагоуловитель
treat – обрабатывать
to be treated with wax – быть обработанным воском
trim – снимать фаску

Uu

unit – блок, узел, комплект
insulated glazing unit – стеклопакет
unstable [ʌn'steɪbl] – нетвёрдый, нестабильный
uppermost – верхний, главный, господствующий
an uppermost layer – поверхностный слой, самый верхний слой

Ww

wall – стена
partition wall – разделительная перегородка, переборка
retaining wall – подпорная стенка
sea wall – набережная
structural wall – несущая стена
boundary wall – стена – ограда
wardrobe – платяной шкаф, гардероб
waterborne ['wɔːtəbɔːn] – передающийся с водой (об инфекции)
water table – уровень грунтовых вод
watertight – водонепроницаемый
wattle ['wɔtl] – плетень, лозняк
wattle and daub – мазанка (тонкие ветки дерева или хвороста, обмазанные глиной)
width [wɪtθ], [wɪdθ] – ширина, толщина, расстояние
window – окно
bay window – окно с выступом
casement window ['keɪsmənt] – створчатое окно

double-hung sash window – подъёмное окно с двумя подвижными переплётами

window pane – оконное стекло

picture window – венецианское окно

pivoted window ['pɪvətɪd] – откидное окно

tilt and turn window – поворотно-откидное окно

turn window – поворотное окно

window opening – оконный проём

window mountings – фурнитура

window rubber / seal – резиновый уплотнитель окна, изоляция

windowsill ['wɪndəusɪl] – подоконник

exterior windowsill – водоотлив

wiring – проводка

electrical wiring – электрическая проводка

interior wiring – внутренняя проводка

hidden wiring – скрытая проводка

workmanship – качество работы

workmanship defect – дефект в результате некачественной работы

Учебное издание

Латина Светлана Викторовна

АНГЛИЙСКИЙ ЯЗЫК В СФЕРЕ СТРОИТЕЛЬСТВА

Учебное пособие

Научный редактор – кандидат культурологии,
доцент О. В. Кохан

Редактор Е. В. Назаренко

Подписано в печать 21.03.2014.
Формат 60 × 84 1/16. Бумага 60 г/м^2. Ризограф EZ570E.
Усл. печ. л. 8,12. Уч.-изд. л. 7,85. Тираж 50 экз. Заказ 26161.

Редакционно-издательский отдел
Федерального государственного бюджетного образовательного учреждения
высшего профессионального образования
«Комсомольский-на-Амуре государственный технический университет»
681013, Комсомольск-на-Амуре, пр. Ленина, 27.

Полиграфическая лаборатория
Федерального государственного бюджетного образовательного учреждения
высшего профессионального образования
«Комсомольский-на-Амуре государственный технический университет»
681013, г. Комсомольск-на-Амуре, пр. Ленина, 27.